INVESTIGATING THE POSSIBLE MEASURES TO CREATE FAVORABLE WORKING ENVIRONMENT FOR LOCAL DESIGN-BUILD CONTRACTORS

By

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Declaration

I hereby declare that this dissertation titled "**Investigating the Possible Measures to Create Favorable Working Environment for Local Design-Build Contractors**" was composed by myself, with the guidance of my advisor, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted, in whole or in part, for any other degree or professional qualification.

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Certificate

This is to certify that the thesis prepared by Mr. Yohannes Fekadu Bayissa titled as "**Investigating the Possible Measures to Create Favorable Working Environment for Local Design-Build Contractors**" and submitted in fulfillment of the requirements for the Degree of Master of Science complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract(To be)

The project has mainly focused on the investigation of conditions which create better working environment for local Design Build (DB) contractors in Ethiopia. The growth of the construction sector in the country has created job opportunity for local as well foreign companies involved in design and supervision, construction, import export business, manufacturers of construction materials and equipment, local construction materials suppliers as well to those involved in informal businesses. The most familiar project delivery system the public body have implemented its projects through has been Design Bid Build (DBB) so far. But, currently the public body also showed a tendency of implementing some projects (Hydroelectric power generation and road projects) through DB basis. Though additional projects are under way, the involvement of local DB contractors is limited to only a few road projects awarded in National Competitive Bidding (NCB). Creating favorable working environment through friendly bidding procedures, appropriate bidding criteria and conducive procurement directives and proclamations is the major way of building local capacity and experience of local DB firms. The project has dug deep to reach those favorable conditions which have proved themselves in the development of DB project delivery, success of the firms and the possibility of application in the Ethiopian public as well private projects. For the sake of data collection regarding the subject, both primary and secondary data were used by collection methods of questionnaires, interviews and literatures respectively. Ethiopian Roads Authority Procurement Department has cooperated to the research in feeding data as an institute delivering a few of its major road projects in DB basis. Quantitative and qualitative data were taken from the department and the data were processed and the results were discussed thoroughly. The study finally arrived at conclusions of creating favorable working environment through conducive procurement procedures, considering the minimum requirements regarding the turnover, particular construction project experience and financial capacity for local Design Build contractors. And also amending the procurement directives as it has been done by the Ministry of Finance and Economic Cooperation in prior times in a routine way due to the dynamic nature of the industry and the volatile economic activity of the country.

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List of Abbreviations

ACC-Association of Corporate Council

CSFs-Critical Success Factors

DBIA- Design-Build Institute of America

DBB-Design Bid Build

DB-Design Build

EEA- Ethiopian Economic Association

EEPCO -Ethiopian Electric Power Corporation

ERA -Ethiopian Roads Authority

FAR - Federal Acquisition Regulation

GMP-Guaranteed Maximum Price

GCOC -General Conditions of Contract

GITA- General Instructions to Applicants, in the SPD

IF- Information Forms

IFB -Invitation for Bids

IFP- Invitation for Post qualification

ITB- Instructions to Bidders

MoFED- Ministry of Finance and Economic Development

NCB -National Competitive Bidding

NCB -National Competitive Bidding

PQ- Post Qualification

PITA- Particular Instructions to Applicants

SBD- Standard Bidding Document

SPD- Standard Post-qualification Document

UK- United Kingdom

UNDP- United Nations Development Program

Definition of Key Words

- "Contract" is an agreement whereby two or more parties as between themselves create, modify or extinguish obligations of a proprietary nature, (Article 1675 of the Civil Code of Ethiopia [36]).
- "Public Body" is partly or wholly financed by the Federal Government Budget, higher education institutions, and public institutions of like nature which has the powers and duties to conclude a Contract for the supply of Works, as specified in the SCC; (PPA [5]).
- "Project" means a unique set of coordinated activities, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined time, cost and performance parameters, Shenhar and Wideman[19].
- "Project Delivery", as defined by Design Build Institute of America [18], is a comprehensive process including planning, design and construction required to execute and complete a building. As Zewdu[30],project delivery system is the way project owners together with project regulators and financiers determine the assignment of responsibilities to project stakeholders along the construction process.
- "Administrative contract" is a special type of contract, recognized under the Civil Code of Ethiopia Article 3131-Article 3306. But, a contract shall be deemed to be an administrative contract where it is expressly qualified as such by the law or by the parties; or is connected with an activity of the public service and implies a permanent participation of the party contracting with the administrative authorities in the execution of such service. Generally, It is a contract to be signed between a public body (government) authority & a private party, (Wakene[27]).
- "Client" means the owner of the project.
- "Concept/crude design" means a preliminary design prescribed by the consultant in order to act as a guideline for all cost considerations and as a basis of computing stand. It uses the input of problem and client's requirement.

- “Contractor” means a person (legal/natural) in charge of duties and responsibilities to carry out the work.
- “Designer” means a person (legal/natural) in charge of duties and responsibilities to carry out the design.
- “Mega projects” are large-scale, complex ventures that will have a decisive role in transforming the agriculture-based economy to the industrialized one. Apart from integrating the agriculture sector to industries, they play a paramount significance in accelerating, modernizing and increasing productivity of the agriculture sector. As they are key suppliers of fundamental energy, farm inputs, commodities, among others, undoubtedly, they have a huge potential in transforming the farming practice. They will significantly spur the industrialization journey by far, (Flyvbjerg[28])
- “Procurement “means obtaining goods, works, consultancy or other services through purchasing, hiring or obtaining by any other contractual means, PPA [5],Public Procurement Manual.
- "Works" are defined in PPA [5] as all work associated with the construction, reconstruction, upgrading, demolition, repair, renovation of a building, road, or structure, as well as services incidental to works, if the value of those services does not exceed that of works themselves;
- "Specification" is defined in PPA [5] as the Specification of the Works included in the Contract drawn up by the Public Body setting out its requirements and/or objectives in respect of the provision of works, specifying, where relevant, the methods and resources to be used and/or results to be achieved;
- "Public Body" is partly or wholly financed by the Federal Government Budget, higher education institutions, and public institutions of like nature which has the powers and duties to conclude a Contract for the supply of Works, as specified in the SCC, (PPA [5]).
- "Government" stands for the government of the Federal Democratic Republic of Ethiopia

- "Eligible Countries" are countries as a matter of law or official regulation, the Government of the Federal Democratic Republic of Ethiopia prohibits commercial relations with that country, provided that the Government of the Federal Democratic Republic of Ethiopia is satisfied that such exclusion does not preclude effective competition for the provision of goods or related services required; (PPA [5]).
- "Drawings" are the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Public Body in accordance with the Contract, include calculations and other information provided or approved by the Engineer for the carrying out of the works, (PPA [5]).

CHAPTER I

INTRODUCTION

1.1. BACKGROUND

According to the reports of United Nations Development Program (2014) as cited by Zewdu[1], Ethiopia is the fastest-growing, non-oil driven economy among African countries. The country has showed remarkable growth over the past ten years with average annual growth GDP of 10.9%. Recently, the contribution of the industry sector (which is 21.2%) and particularly that of the construction sector to the national economy is given high prominence and it is mainly driven by the energetic performance of the construction sub-sector.

Ethiopian Economic Association (EEA) [32]defined construction generally as an economic activity directed to the creation, renovation, repair or extension of fixed assets in the form of buildings, land improvements of an engineering nature, and other such engineering constructions as roads, bridges, dams, etc. Specifically to address activities in the country Ministry of Finance and Economic Development (MoFED as cited by EEA [32]) defined construction as, activities actually covered under the industry are the construction and maintenance activities of:

1) Residential buildings in urban and rural areas,
2) Nonresidential buildings, i.e. factory buildings, ware houses, office buildings, garages, hotels, schools, hospitals, clinics, etc.,
3) Other construction works, like roads, dams, dikes, athletic fields, electricity transmission lines, telephone & telegraph lines, etc.

Cities in Ethiopia are struggling to provide adequate infrastructure and services. Despite progress over the last two decades in infrastructure and services across all urban sectors, there is still much to do, even at today's level of urbanization. Coverage for sanitation services is low, even by Sub-Saharan Africa standards, with a municipal sewerage system only in Addis Ababa, serving only 10 percent of the city's population. As in

many towns and cities in the developing world, Ethiopian cities struggle to manage solid waste, which is often dumped into open areas, endangering public health. Road density is below the African average, although higher in urban areas than the national average. The infrastructure challenge is more pronounced in the water sector. Population growth in cites will require many-fold increase in access to meet projected demand over the next two decades, and be funded almost entirely by municipal own-source revenues. This is a problem because infrastructure and services are essential to building a strong business environment in cities, as well as making them attractive places to live and work. As is the case with employment opportunities, the challenge of providing infrastructure and services is not just to meet current levels of demand, but also that of the rapidly expanding urban populations that are set to triple over the next two decades, (World Bank Group [46]).

Regarding the importance of road infrastructure in Ethiopia, Sheferaw *et al.* [43] stated that, a landlocked country with largely non-navigable rivers and railway systems under construction, road transport plays a critical role for the performance of the Ethiopian economy. In addition to that the development of one utility affects the other positively and the vice versa. For instance the poor infrastructure and high transport costs are often identified as a key constraint for industrial development in low-income countries (Bloom and Sachs, 1998 as cited by Sheferaw *et al*.[43]).

In recent times the private sector has showed interest in hotel and tourism, education, health, recreation and (but not limited to) renting and leasing investment (shopping malls) which again makes use of utilities as electricity, clean water and telecom. On the other hand, the project performers: local construction companies have evolved in capital, personnel quality and technical skill. Mengesha (2004) as cited by Ayalew [46] stated that, since 2001 the period of emergency of integration and capacity building, realizing the performance and capacity limitation of domestic firms which begins to be involved in some projects, the government has introduced the concept of integration and capacity building in 2001. Finally the author concluded that, from 2001 onwards, the construction industry in Ethiopia is developing tremendously.

To fulfill the demand of infrastructure by the public and private investment facilities, the government and public body there is a need for dependable and trusted firm to change the dreams of those clients. Wakene[27] stated that, because of the need to carry out its functions, government, via its branches, will embark upon different activities which inevitably will invite the interplay of its branches and the private sector. These branches otherwise known as administrative agencies assist government to properly take its tasks of service provision among other things. It is therefore while these agencies carry out their functions that they use the law of administrative contracts to their ends. The ends are public services, the means administrative contracts. Thus, the government also requires dependable and competent companies for the development of infrastructures to meet the vast demand by its people and also wishes to get competitive advantage to meet the scarce financial resource to deliver concurrent projects at once.

In Ethiopia, currently besides a few hydro-electric power generation projects and road construction projects, many of the infrastructure development projects financed by the government are delivered based on the Design Bid Build (DBB) project delivery basis. In that, the government hires a design and consulting firm based on terms and conditions of the public procurement and property administration agency. Once the Designer furnished the design work and prepared the specifications, then another open competitive bidding will take place to hire a constructing firm. Throughout the whole process the public body signs two different agreements with two different firms. On the contrary, in Design Build (DB) project delivery, the owner retains a single entity that is responsible for both the design and construction of the project. In Design Build (DB) project delivery, the owner retains a single entity that is responsible for both the design and construction of the project.

The practice of Design Build (DB) project delivery system in the country has limited it-self to only a few hydroelectric power generation projects and road construction projects undertaken by Ethiopian Electric Power Corporation (EEPCO) and Ethiopian Roads Authority (ERA) respectively. In the case of road construction projects delivered through

DB basis, local contractors are the only one given priority with the chance to bid for projects open for National Competitive Bidding (NCB). In the country the application of DB project delivery is at an infant stage as compared to its level of use in other developed countries.

According to Tyler [15], while DB has emerged as a leader in today's cost-conscious construction industry, it is a concept that is more than 4,000 years old. The same author adds that DB method is based on the ancient concept of master builder who accepted full responsibility for designing and constructing a project from conception to completion. Among the major projects delivered through DB the great pyramids of Egypt, the Theater of Dionysus, the Parthenon and the Brooklyn Bridge are iconic ones.

In addition to the construction industry, the process is found in many industries. When somebody buys something, the usual process seems to be to buy a product that has been designed by its producer. Examples of this are found in fields as diverse as shipbuilding and microelectronics. Indeed, before the emergence of architecture as a profession distinct from fabrication, pre-industrial society used to procure buildings by a process of design and build. The owner typically solicits competitive bids based upon a set of project performance requirements or specifications the task requires. The design-builder is typically the general contractor, but may also be the architect or engineer or even a joint venture between the general contractor and a design firm.

Design-build projects have the advantage of improved communication and accountability to a single source. Practically, the design and construction companies will be integrated from the very early stages of the project. This integration gives room to better interaction and discourse between the designer and the contractor during the design phase of the project. According to the Design Build Institute of America (DBIA) as cited by Tyler[15], the design/build construction delivery method has grown approximately 40 percent over the past15 years, which makes it one of the most significant trends in design and construction today.

Providing conducive working environment for local DB contractors, would invite local investors to involve in the sector, invite local companies to build capacity, creates job opportunity for enterprises, helps for equitable market condition to new coming smaller firms and also the country would get competitive advantage. Among the conducive working environments favoring bidding procedures and technical requirements, favoring proclamations and (but not limited to) favoring competency requirements are the core ones. For instance amending directives as practiced in the past few years. The former Ministry of Urban Development and Construction has revised its guidelines regarding the registration and competence assurance of Construction Professionals and Contractors. These particular issue is strengthened by the MoUDC[33] as, whereas, construction industry plays a vital role in the economic development of the country; Whereas, the private sector is the key stakeholder in the industry and to determine the capacity and extent of participation of the private sector, it is necessary to know the available manpower, field of specialization and equipment of the individuals and firms in view of overall planning.

1.2. PROBLEM STATEMENT

Local companies as compared with foreign well experienced, well equipped with professionals and financially strong companies will not penetrate the computation as they are in two different grounds and if they do so will face problems to deliver the project on time. As Koshe and Jha[38] , among the major cause of delay of construction projects in Ethiopia, lack of skilled professionals in local construction companies is the one. In addition Ayalew [47] stated that, the level of construction project management practice in terms of adapting general project management procedures, project management functions, tools & techniques by local companies to be unsatisfactory. Particularly the level of practice in terms of safety, risk and time management was found to be very low. For instance, if we see the case of market share of local contractors on ongoing DB road projects, it is only about forty percent (40%) of the overall projects on the contract amount basis, (Project summary sheet of Ethiopian Roads Authority Design Build directorate, Appendix XI). The rest of projects are under construction are carried out by foreign companies majorly from China, Korea, Israel and (but not limited to) Turkey. In

addition to the road sector, if we see power sector, all the primary contractors of the power supply projects are all foreigners. the Thus, local companies, unless favored to compete with foreign companies would continue to face challenges of getting new projects.

Unless the government prepares equivalent computing ground for its procurements, foreign companies would have greater advantage because of their greater experience, better personnel and liquid asset, better performance due to their cash flow and better annual turnover as well. Foreign companies have contributed a lot for the growth of the industry in many ways from bringing newer construction materials up to training local manpower in their day to day practices. But, they do not re-invest their profit in Ethiopia and the key personnel are all foreigners. Thus, the contribution of foreign companies in creating job opportunity to local skilled man power is limited to a few job vacancies for unskilled labor. Unless otherwise favorable working environment is crated, local companies would not build their capacity to compete with foreign companies.

The marginal preference and other favoring criteria under the directives set by the Ministry of Finance and Economic Cooperation are being used by the public bodies through the processes of tender advertisement and bid evaluation. But, there have to be routine amendments regarding some articles.

1.3. OBJECTIVE OF THE STUDY

1.4.1. General Objective

The general objective of the project is to investigate the possible ways which help local Design-Build contractors more to engage in projects delivered through Design-build procurement system.

1.4.2. Specific Objective

- ✓ To elaborate potential project clients about the advantages due to delivering projects through Design-Build on the contrary to the traditional methods;

- ✓ To brief the experience regarding competence assurance and Procuring , Contracting and Executing DB projects of foreign nations
- ✓ To make detail analysis on the conditions which determine the success of Design-Build projects and the performing contractors;
- ✓ To point out the possibility of applicability of Design-Build procurement system for public projects in Ethiopia other than power generation and road projects;

1.4. RESEARCH QUESTIONS

The questions that the research will address are as follows:-

1. What are the distinctive natures of the Design-Build Delivery system?
2. How does an adopted document serve as a guideline for procurement, contracting and execution of DB projects?
3. How does the government through procurement directives, proclamations and procurement procedures create conducive condition for local Design-Build contractors in public procurements?
4. What are the major factors which determine the success of Design-Build projects and stakeholders involved in projects delivered through DB basis?

1.5. SIGNIFICANCE OF THE STUDY OUTCOMES

The paper has tried to show the problems of local companies which hindered their capabilities to compete with foreign contractors and caused the lesser market share by local companies. In addition to that, the bid evaluation criteria of a public body which procures its works on DB basis was thoroughly looked with the corresponding local company favoring evaluation criteria in the due process of investigating the possible local company favoring directives and proclamations.

1.6. SCOPE OF THE RESEARCH

The research has focused on the conditions which favors local DB contractors in the tendering process due to the fact that it's a basic principle of building local capacity. As a benchmark to the study, statistics was used to show the dominance of foreign DB

contractors. Thus directives including the prior ones and the amendments were reviewed and the procurement practices of Ethiopian Roads Authority on DB works procurement were reviewed to find possible weaknesses of the private sector and questionnaires were filled by the staff members of ERA DB procurement directorate and local companies currently performing in the delivery system. Finally the framework of the whole process of procurement set by the Ministry of Finance and Economic Development through Federal public procurement and property administrative agency and proclamations for the specified purposes.

1.7. LIMITATION OF THE RESEARCH

The research while trying to collect data regarding the criteria that local DB contractors mostly fail to achieve in bid evaluation or even at the processes of tender advertisement by private bodies; only randomly selected contractors which are performing on DB contracts were selected because of the limitation of resources.

1.8. RESEARCH ORGANIZATION

To achieve the general and specific objectives as well to address the research questions; the research is organized in to Seven chapters comprising the Introduction, Literature review, Research Design and Methods, Results and Discussion, Conclusion and Recommendation, Reference and Appendices. In the first chapter, the problems were identified and the statement of the problem was drafted. Next to that, the general and specific objectives of the paper were stated. In the third chapter the related literatures were searched and reviewed to access relevant data about the way other nations apply the delivery system, the pros and cons of the delivery system, the current favoring conditions the procurement directive provides, the possible project success guides of the same nature and (but not limited to) the bid evaluation practice and guidelines of one organization which is practicing the system was studied thoroughly. Then the results from the analyzed questionnaire responses and the attached supporting documents forwarded by

the department were reviewed with due care and the discussion revolves around the results. In the fifth chapter the Conclusion and Recommendation is drawn from the results and discussion. Finally the reviewed literatures, directives and proclamations are listed and the most relevant ones are shown in the appendix part as evidential data.

CHAPTER II

LITRATURE REVIEW

2.1. GENERAL

Masterman (1996) as cited by Mfongeh[2]stated that, procurement is a concept directed towards the aims of clients, or it's a systematic way to satisfy client's need which is related to construction facilities. Choosing the right procurement system is as important as choosing the right procurement team for the overall success of a project at the procurement stage. Finally the author concluded that, the type of procurement system chosen has to be suited for a particular need of a client. Otherwise, instead of the assumed benefits the shortcomings becomes dominant.

As Oyegoke *et al.* [39], categorizations regarding different classifications of procurement routes have been created by considering the process through the work is carried out, the contracting party that carries out the project, the bearer of risks and responsibilities, the form of relationships between the parties, the compensation method employed and the management process adopted.

McDermott et al. [33] studied construction procurement systems with regard to the choice the third world countries have and concluded that the decision making aids which have been designed for use by clients and their advisers in the UK are inappropriate for clients in developing countries. The author also states the scenario in many developing countries as 'when a less developed country does obtain enough finance for a development project, of which many are construction related, that country's position as a construction client is undermined by its relative inferiority compared to the multinational firms that undertake such projects'. The development of appropriate procurement assessment criteria for clients in Third World countries is therefore required which must be preceded by a reassessment of the relationships between clients and contractors, in a Third World context, emphasizing a proactive role for clients. Thus, the client is the one responsible for understanding the nature of the work he/she has planned to do and choose corresponding suitable procurement system among the alternatives.

2.1.1. Procurement Systems in Construction Industry

The chosen procurement system governs the delivery processes of a construction project in many ways and it is among the key factors in determining the success or failure of any particular project. Construction clients prefer one project delivery over another while considering associated risks, responsibilities, schedules and (but not limited to) cost of the project. Project delivery systems can basically be classified in to two broad areas:

I. Force Account; and
II. Outsourced

I. Force Account

As its name implies, it is a system by which the project owners engage themselves to undertake the project. Such system is often promoted if the project owner believe that there is no comparative advantage in cost, time &quality or else if the owner it-self has the technical, material, personnel and/or machinery capability for the task. Thus, no prime contract is issued.

II. Outsourcing

Most of the project delivery methods/systems are found under the category of outsourcing. In that the owner passes the task for the advantage of cost, quality, time and scope for another firm which is capable of undertaking. As cited by Mfongeh[2], Masterman (1996) in his study by the topic 'an introduction to building procurement systems', identified three major categories under which procurement systems can be classified. These include; the separated and co-operative systems, the integrated procurement systems and the management-oriented procurement systems.

Separated and Co-operative Procurement Systems

The distinctive nature associated with this system is that, the functions of design and constructions are separate, carried out by different firms and also one after completion of the other. First the client hires a designer to carry out the whole design and specification. As stated by ACC [14], when the plans and specifications are complete, the owner is ready

to engage a contractor. Based on the building plans and specifications, interested contractors will compile bids for the project. The bid is an offer for the owner to accept. Depending on the size and complexity of the project, the bidding contractor may include in its bid a variety of specialty contractors to help construct a portion of the project. In the case of Ethiopia, as clearly stated in the Proclamation No 649/2009 of Federal Government Procurement and Property Administration proclamation article 33 sub-articles 1&2, though the methods of public procurement of Open Bidding, Request for Proposal, Two stage Tendering, Restricted Tendering, Request for Quotation and Direct Procurement, except otherwise provided in the proclamation, public bodies shall use open bidding as the preferred procedure of procurement.

Integrated Procurement System

The distinctive nature associated with this system is that, a single entity is responsible for both design and construction tasks. Hence, there exists a single contract between the contractor (some literatures call it main contractor) and the client.

As Mfongeh[2], who made a research survey on the 'constraints of using design and build for the procurement of construction projects in South Africa', and concluded the fact that there is lack of human capital for the implementation of DB projects. Thus, the owners tend to struggle to find adequate help in the drafting of their briefs and also with the evaluation of tenders, and selection of the right contractor. The author stated that, this system is favored for faster project completion, prior quality and early and accurate knowledge of costs. He also adds up that integrated procurement system can have the following variants;

- Package deals
- Turnkey
- Develop and construct

Management-Oriented Procurement System

What makes a difference here is that, on behalf of the client there is a manager who consults the client and manages the whole operation. McDermott et al. [33] stated that, the use of management forms of procurement has advantages over conventional, design-team

led, approaches in that they allow clients to work more closely with contractors than would normally be 'acceptable' in traditional forms where the design and construction elements of a project are deliberately divorced. As cited by Mfongeh[2];Masterman (1996) has identified the variances of the traditional method as;

- Management contracting
- Construction management
- Design and manage

2.2. FACTORS FOR THE SELECTION OF A PROCUREMENT METHOD

The typical nature of the project leads to the appropriate procurement system. The client has to consider the constraints associated with each procurement system and the simplicity during administering the contract. Love *et al.* (1998) as cited by Stauffer [46] stated that, as a result of studies conducted in the past, a consensus exists that while one procurement method may outperform another for a specific project, no single procurement selection method is superior to others for any project.

The Construction Management Association of America [3] on a paper titled as ‘an owner's guide to project delivery methods’ stated how the project will be designed and constructed, or the project delivery method, is one of the most important decisions made by every owner embarking on a construction project. With a variety of delivery methods in use today across the design and construction industry, it is possible to tailor a delivery method that best meets the unique needs of each owner and each project. One of the most important decisions made by any owner embarking on a construction project is the choice of the project delivery method – how the project will be designed and constructed. Finally the paper concluded that, there are many options for delivery methods and many variations within those options and an owner faced with choosing a project delivery method should consider several factors in making the decision, including:

- Project size
- Type of project

- Legislative and regulatory requirements
- Tolerance for risk
- Schedule
- Local market knowledge
- Desired level of involvement
- Owner's resources and capabilities

When these factors are properly evaluated, a good decision can be made on the selection of a project delivery method that best fits the goals and requirements of the owner and the project.

Another group of authors on selection criteria of procurement method, Murdoch and Hughes [36] stated that, it is important to understand where each form of procurement should be used. If this is understood, then the procurement method can be chosen in relation to project type. Many clients are reliant upon the advice they get from their consultants. That is, after all, why they appoint them. The power struggles between the professional institutions in construction shed light on the relative importance of each of the procurement methods. The most important criteria for choosing procurement methods are:

- Involvement of the client with the construction process.
- Separation of design from management.
- Reserving the client's right to alter the specification.
- Clarity of client's contractual remedies.
- Complexity of the project.
- Speed from inception to completion.
- Certainty of price.

Agha[42] on a research on the factors affecting the selection of procurement method stated that, when choosing a procurement method, many factors must be considered depending on the type of client, development and mechanisms for funding the project. At the outset, before a procurement method is chosen, it is important that the client

develops a project strategy. This would include factors such as identifying the objectives for the project, completion of a risk management process, relevance of timescale, degree of quality expected, and appropriate team structure.

The criteria developed by different authors have certain common points shared by all. Clearly, there may be other, more important factors for particular clients. Similarly, some of the factors chosen here may not apply to each project. However, the principle remains. Before entering into contracts, a client should be advised about the procurement options and taken through a series of decisions so that the most appropriate procurement method can be identified. Thus, the common criteria shared by most are listed below to provide a basic framework.

Involvement of the client

Murdoch and Hughes [36] stated that, the first question to consider is the extent to which the client wishes to be involved with the process. Some clients would wish to be centrally involved on a day-to-day basis, whereas others might prefer simply to let the project team get on with it and pay for it when it is satisfactorily completed. There are many points between these extremes. The decision will depend, at least partly, on the client's previous experience with the industry and on the responsiveness of the client's organization.

The Nature of possible performing companies

In the case of some sophisticated tasks which require specialist firms, the client is obliged to hire one. The specialist firm or specialist contractors are not as such many and the competitive advantage the client gets is limited. Thus, Due to their limited number, they have the power to bargain and choose the delivery system by themselves.

Separation of design from management

As Murdoch and Hughes [36], the principle that applies is the extent to which design philosophy should form the basic unifying discipline of the project, or whether more quantifiable aspects should prevail. In the former case, it would be inadvisable to divide management from the traditional purview of the design leader. Such a distinction may emasculate the architectural processes and reduce it to mere ornamentation. Butthis is not

always the case: not all projects are architectural. On the face of it, DB contracts should also exhibit no separation of design from management since both functions lie within the same organization. While this is indeed true, this fact also means that any debates where design issues must be weighed against simple cost or time exigencies are resolved within the DB firm.

The nature of possible performing companies

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Reserving the client's right to alter the specification

Murdoch and Hughes [36] stated that, there are three reasons for altering the specification. First, the client may wish to change what is being built. Second, the design team may need to revise or refine the design because of previously incomplete information. And third, changes may be needed as a response to external factors. Although it is quite clear that a construction contract imposes obligations on the contractor to execute the work, it is often overlooked that this also gives the contractor a right to do the work and that right cannot lightly be taken away. If a client wishes to make changes to the specification as the work proceeds, or wishes to allow the design to be refined for whatever reason, then clauses will be needed to ensure this. However, the procurement decision affects the extent to which the contract structure (rather than clause content) facilitates changes.

Clarity of client's contractual remedies

An important part of the contract structure is the degree to which the client can pursue remedies in the event of dissatisfaction with the process. Some contract structures are simple, enabling clear allocation of blame for default, whereas others are intrinsically more complex, regardless of the text of actual clauses. One of the fundamental aims behind a contract is to enable people to sue each other in the event of non-performance.

Complexity of the project

The complexity of a project brings a unique set of constraints and conditions. The nature of the project determines the required professionals, the availability of fund, type and number of machineries, working methodology, and (but not limited to) experience of the firm and the basis on which the firm delivers the task.

As Murdoch and Hughes [36], complexity cannot be considered in isolation because it is inextricably bound up with speed and with the experience of those involved with the project. It is also a very difficult variable to measure. Although technological complexity is a significant variable, it can be mitigated by using highly skilled people. Of more concern in the procurement decision is organizational complexity. Roughly speaking, this can be translated into the number of different organizations needed for the project. Because of fragmentation, this means that a project with a large number of diverse skills is more organizationally complex than a project with fewer skills, even though the few maybe more technologically sophisticated.

Speed from inception to completion

As Songer and Molenaar(1996) as cited by Mfongeh[2], the client shall consider the procurement system with the corresponding required time from inception to completion day. As Murdoch and Hughes [36],one of the most distinctive features of construction projects when compared with other projects is the overall duration of the process. Since a single construction project typically constitutes a large proportion of a client's annual expenditure and a large proportion of a contractor's annual turnover, each project is individually very important. Many developments and refinements to procurement methods have been connected with a desire to reduce the duration of projects. Much of the process of construction is essentially linear. Briefing, designing, specifying and constructing must follow one from the other. If these steps can be overlapped, then the overall time can be reduced significantly, provided that there is no need for rework due to changes and wrong assumptions, in which case too much overlapping can slow the process and cancel any gains due to overlapping.

In many cases of infrastructure development especially in Ethiopia and other developing nations, the demand grows very fast. Or else in the case of tournaments and/or festivals

there is a fast need for such infrastructures. Thus the government needs quicker methods to provide the service for the people. Such project owners should consider using integrated systems as design and building take place simultaneously and hence construction begins before design is complete, thus reducing the construction period.

Certainty of price and financing issues

In some cases the financer may require earlier costs associated with the project and in some other cases requires the principal paid back within short period of time with the interest. In the case of public projects in Ethiopia, some are funded by loans from international financing institutions. Thus, the client (the public body) must consider the repayment. The case of fertilizer production plant in our country under financial crisis is good example here. According to McDermott *et al*. [33] in the context of international procurement of construction projects, developing countries because of the economic situation, have no choice as to the best alternative that would, in theory, give them value for money.

As Murdoch and Hughes [36], price certainty is not the same as economy. It is doubtful that there is any correlation between economy and procurement method. The reliability of initial budgets is highly significant for most clients. However, this must be weighed against the financial benefits of accepting some of the risks and with them, less certainty of price.

Understanding of the Project Owner Regarding the Construction Industry

In the case of administrative contracts in Ethiopia, Public Procurement and Property Administration Agency, public procurement manual[5],which is drafted standard bidding document for procurement of works for national competitive bidding stated that ,the Proclamation and Directive and the Manual assumes that the public body is able to exactly spell out the object of procurement and can specify it in detail in the Bidding Documents and the technical specifications. Otherwise, procurement proceedings shall not begin until such time as the public body has been assisted to prepare a satisfactory technical specification against which bids shall be invited.

Depending on the technical knowledge and understanding of the client towards the project, he/she may hire Management-Oriented, Separated and co-operative or Integrated procurement system for all or part of a task. Practically if the client has the capability to define the scope of the work so that DB firms can bid based on the request, he may use Design Build procurement system. Or else if the client cannot perform those tasks by himself, he may chose management –oriented procurement.

2.2.6. Former Experience

Based on the experience of formerly completed projects and firms engaged on it, a client may select the former procurement system with the same firm or any other. Mathonsi and Thwala[4],on their study conducted on the factors influencing the selection of procurement systems in South African construction industry revealed that, South African procurement system is based on the British model and concluded that, it is evident from their study that the South African construction industry has done exceptionally well in implementing world-class projects successfully while utilizing various procurement systems. Based on the findings of the literature review and empirical survey findings, it was established after factor analysis that five factors significantly influence the selection of procurement systems. The five factors in the order of importance in terms of their utility value scores are: procurement policy, project characteristics, socio-economic consideration, project characteristics, capital cost, and client requirements.

2.3. DESIGN BUILD PROJECT DELIVERY SYSTEM

Seng and Yusof[6] surveyed literatures on the success factors of DB procurement method and defined the term "Design and Build" as a procurement strategy that entails the contractor carrying out the work; the design as well the construction works. In addition to that, they defined it as a contract in which a single entity, usually a contractor assumes responsibility for the design in whole or in part and for the construction and completion of a construction project. The paper concluded that, it is essential that whoever really want to procure DB method need a thorough understanding of the types and characteristics of that kind of procurement.

The concept of DB is not a new one to our world, as many of the great wonders of the world which existed in ancient times and in the renaissance was created using the methodology of Master Builder which in many aspects resembles today's DB. Toward the end of the Renaissance, design and construction began to separate. Individuals began to identify themselves as either designers or construction tradesmen. Guilds were formed. In addition Beard (2001) as cited by McWhirt[45]stated that, a concept of master builder written in the code of Hammurabi specifically addressed to work of the builder in sections 228 through 233 as follows,

- Section 228, if a builder build a house for someone and complete it, he shall give him (the builder) a fee of two shekels in money for each sar of surface.
- Section 229, if a builder builds a house for someone, and does not construct it properly, and the house, which he build fall in and kills its owner, then that builder shall be put to death.
- Section 230, if it kills the son of the owner, the son of that builder shall be put to death.
- Section 231, if it kill a slave of the owner, then he shall pay slave for slave to the owner of the house.
- Section 232, if it ruin goods, he shall make compensation for all that has been ruined, and is as much as he did not construct properly this house which he build and it fell, he shall re-erect the house from his own means.
- Section 233, if a builder build a house for someone, even though he has not yet completed it; if then the walls seem toppling, the builder must make the walls solid from his own means.

Watson [9], in the Journal of Florida Water Resources wrote about the history of DB and he enumerated the benefits and the drivers for using DB and listed the three distinguishing features of DB procurement system as,

1) Single point of accountability for design and construction

2) It utilizes a single contract between the owner and the design builder
3) Major procurement and construction can begin before design is complete

Design Build Institute of America[8], defined the delivery as it's characteristic nature is that where one entity or company or firm, the design-builder, binds itself in a single contract with the owner to provide both design and construction services. Though the specialization continued to support more segregated project delivery models throughout the nineteenth and early twentieth century, ingle contract for both design and construction transfers the risk and responsibility regarding the completeness, accuracy and integration of the design and construction processes to the design-build entity. It also adds that, with the designers and constructors forming a unified, integrated team at the onset of the project, typically among parties that have an affinity for working together, the opportunity to actually coordinate and optimize the design effort with the construction effort is greatly enhanced over any other system of project delivery.

Satterfield [10] stated that, the Design-Builder is usually the general contractor, but can also be the architect or engineer in that by incorporating the designer and contractor, design-build minimizes the project risk for an owner and reduces the delivery schedule by overlapping the design phase and construction phase of a project. Finally the author concluded that, the successful implementation of design-build requires a cultural shift away from design-bid-build. Throughout the entire process; owners, designers, and contractors must work together as a team. If followed correctly, design-build offers a faster, less expensive way for water and wastewater utilities to undertake construction projects.

Harnes[7] has briefed about Construction & Design Risk (C&DR) of Design–Build Contracting as the combination of qualifications–based selection of design services and low bid requirements for construction contract awards established a public contracting environment that legally required the separation of design and construction. With such wide–spread adoption, design–bid–build became the delivery model of choice for all

non–residential construction by the year 1900. The Industrial Age also unfolded; specialization affected all aspects of Western culture. As Professional associations and societies came into being, further defining the separation between architects, engineers and contractors.

Bernstein and Carr [11] on the study titled ‘project delivery systems: how they impact efficiency and profitability in the building sector’, stated that DB is a fast growing project delivery being used more widely on roadway, bridge, railway, waterway port and airport projects in USA. In their study they explored the impact of selection of project delivery system. Though the finding demonstrated that there is no clear, simple recommendation for the use of specific delivery system, 43% of architects and 50% of contractors find DB to be the best system to reduce project schedule and a higher percentage of owners using DB report projects finishing ahead of schedule than the DBB and CM at Risk project delivery systems.

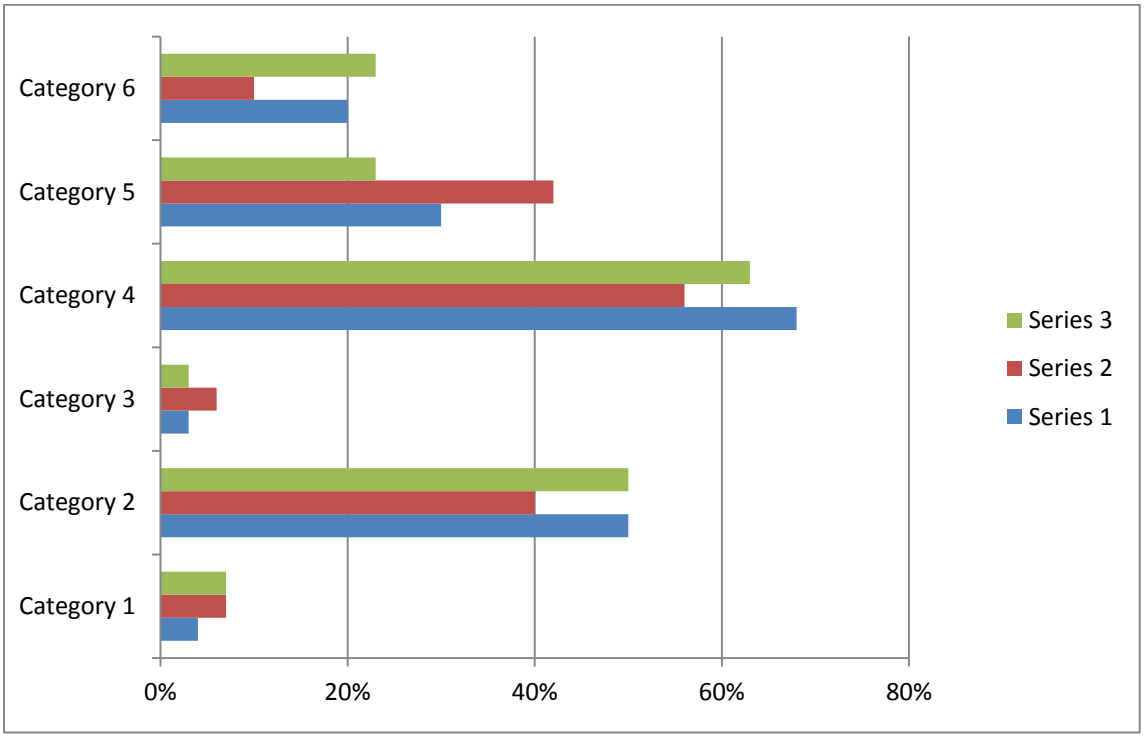

Figure 2.1 Expected change in the use of established project delivery systems in the industry by 2017; according to Owners, Architects and Contractors in USA.

Note- Series 1 stands for Owner, Series 2 stands for Architect and Series 3 stands for Contractors

Table 2.1. Illustration of the increase and decrease in usage of different delivery systems among contractors, architects and owners in USA

Category	What it stands for	Owner (%)	Architect (%)	Contractors (%)
6	Design Bid Build Increase	23	10	20
5	Design Bid Build Decrease	23	42	30
4	Design Build Increase	63	56	68
3	Design Build Decrease	3	6	3
2	CM at Risk Increase	50	40	50
1	CM at Risk Decrease	7	7	40

(Bernstein and Carr [11])

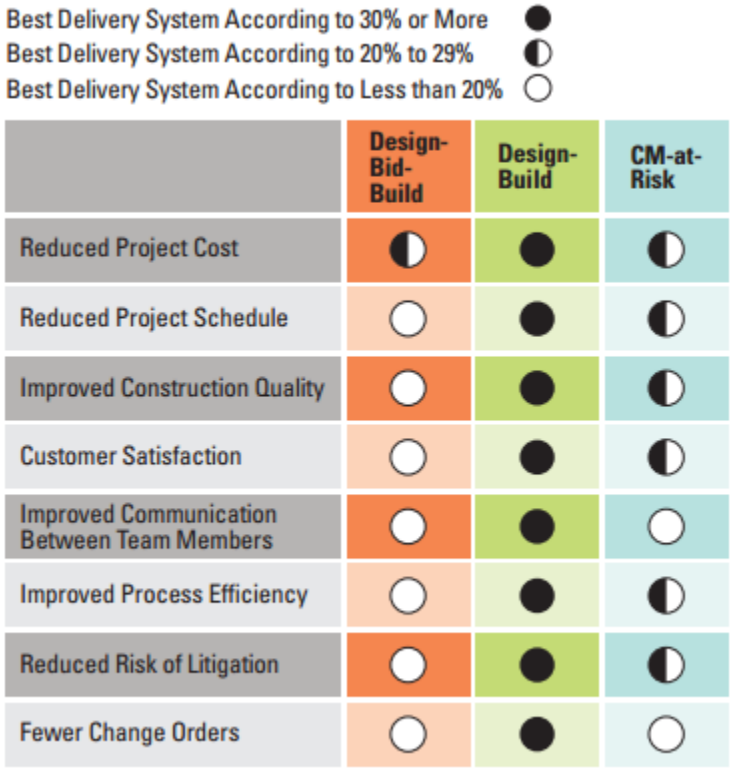

Figure 2.2Best delivery system for achieving benefits according to contractors in USA(Bernstein and Carr [11]).

Varma[12] in his report titled 'design-build approach to project delivery: the checks and balances in the overall construction process', stated that, in USA from the early 1980s to late 1990s, the Design-Build contracts grew from $6 billion to $56 billion and represented nearly 25% of the non-residential U.S. construction market. Many of the improvements in the construction industry have come from outside the construction industry. In the past owners have had to intervene to solve problems between designers and builders. To avoid that, design-build contracting was devised as a procurement method to bring accountability for both design and construction under a single entity (a design-build firm). The author concluded that, In the 1990s and more recently, design-build has emerged as a significant option, and it could be a second major shift from the design-bid-build approach and a few years from now, 'we will be able to gage more accurately the impact of design-build on the management of contracts in the construction industry as a whole'. The data presently available from DBIA and other studies certainly points the distinct advantages of DB over DBB in many cases. For the owner, DB contracting is more appealing because it gives a single point of contact for both design and construction. In the past DB was utilized for complex projects such as industrial power plants and oil refineries but now is being utilized for all kinds of private and public sector projects. It is therefore imperative for schools of construction to include DB programs in their curriculums and devote a significant amount of time in teaching DB philosophy alongside DBB and CM project delivery systems.

2.4. COMPARISON OF DB WITH THE TRADITIONAL DELIVERY

Oyegoke *et al.* [39], stated that according to the Office of Government Commerce (2008) report of the Public Sector Construction Clients Forum: PFI, design and build, and prime contracting represent the majority of the procurement strategies adopted by Government clients and account for the majority of public sector construction expenditure. The report also states that in some instances, clients have developed hybrid forms of procurement based on one or a combination of these strategies, e.g. Department of Health's Procure 21 arrangement, an enhanced form of design and build that uses integrated supply chain.

From the very nature of project delivery systems there become advantages and disadvantages. The advantages of DB over the traditional system from different perspectives is given below,

2.4.1. From Speed Point of View

Traditionally the client first hires a design professional who renders to carry out the design task and prepares construction document which comprises detail drawings, specifications and the like. Then the bidding process takes place and again hires a construction contractor to carry out the construction task as per the construction documents and specifications prepared by the design professional. This whole process comes one after another, consequently, which takes twice as much time as compared to DB. Friedlander [13], in the study titled 'Risk Allocation in Design-Build Construction Projects' studied through interview of representatives of numerous federal agencies in USA to determine their intent and goals for the construction projects for which they were responsible. And find out that,

- ✓ The first issue was the duration of the projects from conception to completion: accelerating the process and avoiding delays.
- ✓ The second issue was a desire for greater cost certainty and control.
- ✓ The third issue was a desire to avoid what has come to be known as "claims contracting," in which a contractor bids the project at an unrealistically low number expecting to make up its profit on change orders.

In addition to that the author stated, some construction projects are "fast-tracked," which means that construction commences while the final finishing details are still being added to the construction documents. This point is the distinction between the traditional systems and DB delivery system. As long as the designer and constructor are the same entity or in the same firm, DB presents an ideal structure for fast-tracking. Information compiled by the Construction Industry Institute and the DBIA indicated that speed of project delivery is the foremost reason why owners are increasingly turning to design-build methods of project delivery. The merger between the designer and constructor has given rise to a newer organizational advantage. The same author also presents evidential

story of a project to develop, design and construct a large, state-of-the-art datacenter for State Farm in Georgia: what would typically be a two year or longer project took less than eleven months from conception to completion. Finally the study concluded that: although design-build methods of project delivery have existed since before the pyramids (and were reportedly used to construct them), they are only beginning to reemerge in a significant way into our modern society of high-speed business and litigation.

Table 2.2. Project factsheet for the cost reduction and schedule slimmed for construction of Chobani New Greek Yogurt Facility in USA.

Project Facts and Figures
Design Builder – Shambaugh& Son
Type of Project – Manufacturing Facility
Size – 1 million sq. feet
Foundations – January 2010
Project Highlights
- Compressed project schedule from 24 months to 10 months
- Construction commencement while project development and design was still underway
- Single point Responsibility
- $ 50 million of cost-savings options from value engineering
- Two million man-hours without a lost-time accident

(Bernstein and Carr [11]).

2.4.2. From Communication Point of View

As different teams in a single company, the design professional and the constructor enjoys the freedom of discussing on each and every aspect of the work. On the contrary from DBB in DB; the communication is verbal even face to face. But DBB allows communication through circulation of drawings and specifications. Contractor related factors and designers related factors tend to affect the smooth functioning of the project as well one another. Thus combined effort of the two parties as teams of a single organization will facilitate the operation of the overall process.

Gordon (1994) as cited by McWhirt [45] stated that, among the potential benefits of DB, creating more designer/contractor teamwork by reducing adversarial relationships and allowing a contractor to participate in the design process and therefore enhance constructability.

2.4.3. From Risk Transfer Point of View

Due to combined responsibilities of Design and Construction tasks; the client can simply transfer risk and responsibility to the contractor. But the concept of Good Faith and Fair Dealing are both applicable, which considers that a party cannot interface in such a way that hinders the performance of the other or obstruct the discharge of responsibility of the other party. Young et al.[14]in a paper titled 'understanding construction contracts' which dealt with clarifying construction contracts to the owners and attorneys, stated the obligation of the owner as :the owner has:

a) an implied obligation not to do anything to hinder or obstruct performance by the other person;
b) an implied obligation not to knowingly delay unreasonably the performance of duties assumed under the contract; and
c) An implied obligation to furnish information which would not mislead prospective bidders.

Typical and common projects will benefit the most from the use of D-B-B as the delivery method. Projects that involve high risk and many unknowns as well as projects that have a limited amount of time to complete the project will not achieve the benefits of D-B-B and another delivery method might be a better choice. (STA [44]).

2.4.4. From Project Quality Assurance Point of View

The owner/client expects a financially responsible party to take over the work and guarantee the final outcome will perform its function. Rather the traditional system obliges the client to hire a professional designer who guarantees only the expected output in terms of the design responsibility. Then again hires a professional contractor to fulfill the construction responsibility only. What harnesses the quality assurance process here is

that both the designer and the contractor will not guarantee the performance of the actual structure. Rather it would be much simpler and effective for assuring quality if the client can assign one firm for the ultimate operation then requesting for guarantee of the whole portion of work.

Tyler[15] , in a paper titled 'Benefits of Design/Build' stated that, DB method is based on the ancient concept of a master builder who accepted full responsibility for designing and constructing a project from conception to completion. And adds up regarding quality that; Design/build inherently provides higher quality than the separate. Because the design/builder has responsibility for performance, it is motivated to build with quality. Design/build eliminates the traditional finger pointing among the architect, engineer and contractor, and allows resources and attention to be productively focused on cost-effective solutions that reflect best value and quality.

2.4.5. From Project Claim/Dispute Point of View

Another organizational advantage is that ,it reduces even eliminates claims as it puts the two ultimately adversarial parties, the design professional and contractor, on the same team. As Satterfield [10], Change orders almost always occur because of unforeseen situations. On a traditional project, change orders and claims fall into one of the following three categories: scope changes, surprises, and design problems. Scope changes may include changes by the owner or those forced on the project by an outside party, such as a regulatory agency or adjoining land owner. Changes in the surprise category usually arise from concealed conditions, force majeure events, or other unexpected conditions outside the design and construction parameters. Variations regarding design problem usually arise from errors, omissions, ambiguities or contradictions in the construction documents. This would possibly be a basis of claim by the affected party for the sake of its need of compensation by the other party.

2.4.6. From Cost control Point of View

In the traditional and well utilized delivery system of DBB, due to the separation between the designer and the constructor; designers do not have access to the specific and detailed cost information that is compiled by and available to contractors. Once the construction document is released for bid the bidders submit their proposals. At this time even the

lowest bidder may come up with an amount much greater than that which was anticipated by the designer and the owner. There have been some variations in the market experienced from time between estimation and bidding takes place as in the case of our country where there is hard currency short comes.

By combining the design and construction functions into a single entity or team, design-build project delivery methods allow for much earlier cost determination. In the early design phases, the architect or engineer works closely with the contractor's conceptual estimators. They jointly make the early design decisions that may have significant impact on project cost and constructability, Friedlander [13].

Obviously the competitive pressure may pose inaccuracy on the prior estimated cost. And it may be difficult to persuade a design-build contractor to get sufficiently involved in a project to do detail conceptual estimating and pricing unless the contractor is assured that it will receive the contract to build the project or at least be favored to be awarded the project. To a more limited extent, the same may be true of trade contractors and vendors whom the design builder involves during the conceptual stages of the project. Some owners reconcile these competing concerns by holding design-build competitions in which several design-build teams are encouraged to submit fully priced competitive proposals for a project, with the owner choosing the design-build team that offers the best value. Friedlander [22].The same author also stated that Cost overruns typically result from change orders or claims.

Tyler [15], the Construction Industry Institute and Pennsylvania State University studied real-world application of the design/build process and found some interesting statistics. The study evaluated the three project delivery types mentioned earlier –design/build, CM at risk and DBB – comparing total cost, schedule adherence and quality on 351 projects in six markets: light industrial, heavy industrial, multistory residential, simple office, complex office and high technology. The industry study concluded that design/build is the most economical and efficient project delivery system in the building and construction industry to -day. The findings of the construction study included:

- Unit cost –Design/build costs at least4.5 percent less than CM and 6 percent less than DBB;
- Construction speed –Design/build is constructed at least 7 percent faster than CM and 12 percent faster than DBB;
- Delivery speed –Design/build is delivered at least 23 percent faster than CM and 33 percent faster than DBB; and
- Quality –Design/build exceeds quality expectations at all levels.

Gordon (1994) as cited by McWhirt[45],though The traditional, design-bid-build project delivery method is perceived as an efficient way to establish the fair market price and eliminate the possibility of favoritism or corruption, However, in many cases the costs of public design-bid-build projects may be far greater than the contract award amount. Flyvbjerg (2002) as cited by McWhirt[45] stated that, Literature has shown that 9 out of 10 transportation infrastructure projects are underestimated. For road projects, actual project costs average 20% more than originally estimated, while rail project costs average 45% over estimates. This same literature also indicates that this cost escalation problem is not any more likely on transportation infrastructure projects than other types of large construction projects.

2.4.7. From Scope Change Point of View

On both traditional and design-build projects, the risk of scope changes is usually on the owner. In both project delivery methods, an owner that changes its mind and imposes new requirements on the project is responsible for the financial (and schedule) consequences of its decision. Similarly, if a regulatory agency requires a change to the project before it will issue a permit, the owner is usually responsible for the added cost, if any. However, in certain design-build projects which are performed on a turnkey basis (in which the design-builder undertakes to present the owner with a completed, fully functioning facility), the risk of satisfying regulatory agencies and obtaining proper permits may logically and contractually be shifted to the design-builder.

2.4.8. From Unpredicted Incidents Point of View

The risk of surprises will be beard by the owner both in the DB and DBB delivery systems. As Friedlander [13], virtually all construction and design-build contracts contain concealed conditions clauses that entitle the contractor or design-builder to additional compensation and/or time in the event that unusual and unpredicted subsurface or other concealed conditions are discovered. In the case of DBB projects the contractor has no involvement in the investigation and other pre-construction phases to be charged with the responsibility for the kind of detailed examination of the site necessary to reduce the likelihood of concealed conditions to an acceptably low probability. However, in some design-build projects, the design-builder's earliest services may consist of surveying existing conditions, taking soils borings and doing sufficient destructive testing that it is reasonable to contractually require the design-builder to bear the risk of concealed conditions.

2.4.9. From Design Related Problems Point of View

Change order is one of the design problems in traditional projects that are entirely eliminated in design-build projects. Since the designer and the constructor are both in the same entity their mother company has no entitlement to additional cost and/or time as a consequence of design changes, omissions or mistakes.

Friedlander [22], design omissions may pose a risk to the owner in a design-build project and a dispute may develop when the design-builder refuses or neglects to build an element of the project because it is not shown on the construction documents, yet the owner claims that it should have been constructed because it was part of the original criteria for the project contained in the programming materials. In these kinds of disputes, the resolution often depends on the information in the project records. In essence, the design-builder claims that to add the element to the project would be a scope change, entitling it to additional compensation, because the element was never part of the original project criteria; whereas the owner asserts that the element was part of the original project criteria that the design-builder is contractually obligated to provide, and its absence in the

construction documents is simply a design omission for which the design-builder is not entitled to financial or schedule relief.

2.4.10. From Value Engineering Point of View

Seidel [16], who studied Value Engineering trends in the construction industry heavily depending on the information provided by the construction management companies, stated that, Value Engineering (VE) was developed during World War II as a method to find alternative methods and materials for processes and products that were limited and challenged by rationing. Since its creation, the use of the VE process has extended to the construction industry as a way to maximize the value of a project.

As Tyler [15], Design and construction personnel – working as a team –evaluate alternative systems, materials and methods efficiently and accurately. From the outset of the project, both design and construction expertise is brought to bear upon all components of a project. Operating expense is evaluated against capital cost to optimize lifecycle costs.

2.4.11. From Early knowledge of Costs Point of View

A DB team, working closely with its client, accurately conceptualizes the completed project at an early stage and also continuous and concurrent estimating during the development of design results in accurate, guaranteed construction costs and schedule far sooner than traditionally possible. This permits the firm establishment of project feasibility and financing well in advance of the drafting of final construction documents. Thus, instead of stalking in the middle of construction the owner will make arrangements towards the cost.

As Tyler [15], The DB approach provides both architecture/engineering and construction under a single contract. Therefore, the owner's control of the entire design/build process is strengthened and financial risk is reduced by contracting with a single firm that is unconditionally committed to the success of the project.

2.4.12. From Procurement Procedures Point of View

With the traditional DBB method, the major sequence of actions a public body in the context of Ethiopia follows to buy the service areas follows,

I. The owner advertises to buy design and consulting service through open competitive bidding
II. Through series of evaluations the owner (or through its agent) selects a firm which satisfies the minimum technical requirement and offered lowest financial request
III. After signing the contract, the selected design firm furnishes the service according to the owners demand and prepares plans and specifications so that the next bidding could take place
IV. The owner again advertises to buy construction service through open competitive bidding
V. Through series of evaluations the owner (or through its agent) selects a firm which satisfies the minimum technical requirement and offered lowest financial request
VI. After signing the contract, the selected firm carries out the taskaccording to the plans and specifications and if any changes occur, the change order from the engineer and owner is required
VII. Then finally the selected construction firm (with other sub-contractors) furnishes the service and up on the verification of the engineer the project gets completed

With DB project delivery method, the major sequence of actions a public body (the case of ERA) follows to buy the service is as follows,

I. The owner advertises to buy design and consulting service through open competitive bidding
II. Through series of evaluations the owner (or through its agent) selects a firm which satisfies the minimum technical requirement and offered lowest financial request

III. After signing the contract, the selected design firm furnishes the service according to the owners demand but only prepares client brief (crude design/concept design) that the next bidding could take place

IV. The owner again advertises to buy construction service through open competitive bidding

V. Through series of evaluations the owner (or through its agent) selects a firm which satisfies the minimum technical requirement and offered financial request which must be feasible as compared to the engineering estimate prepared by the consultant

VI. After signing the contract, the selected firm carries out the design and construction concurrently

VII. Then finally the selected construction firm (with other sub-contractors) furnishes the service and up on the verification of the engineer the project gets completed

2.5. GUIDELINES FOR APPLICABILITY OF DB PROJECT DELIVERY

Here under the guidelines for the processes used in the applicability of the DB are reviewed thoroughly form the organization of DB companies and competence assurance to the Procuring, Contracting and Executing the Delivery of DB Projects.

2.5.1. Organization of Design Build Firms

Companies organize themselves in accordance with the business they are involved in. As Bernstein and Carr [11], In DB design and construction integration are a concrete reality reflected in the contractual relationship between the design build team and the owner or its agent and also the design builder is often a general contractor

Turina et al[17] studied DB in comparison with the traditional procurement method and the possibility of its application in the Croatian construction industry and cited Rowlinson (1987), as design and build contractors organize their activities in three different ways

I. Pure design and build- here, the contractor strives for a complete and self-contained approach where all the necessary design and construction expertise resides within one organization that has sufficient resources to complete any task that arises. In such organizations, all aspects of design and construction have the capacity to be highly integrated.

II. Integrated design and build- in this form, a core of designers and project managers exists within the organization, but this type of contractor is prepared to buy in design expertise whenever necessary. Although more effort is needed to integrate the internal and external members of the design and build team, in-house project managers are employed to co-ordinate these functions.

III. Fragmented design and build- many contractors, both large and small, and including national builders, operate a fragmented approach to design and build projects, whereby external design consultants are appointed and coordinated by in-house project managers whose other main task is to take and refine client briefs. Under this regime, many of the integration and co-ordination problems of traditional approach are likely to manifest themselves along with some role ambiguity among the professions as they come to terms with the builder as leader of the design and construction team.

and finally concluded that However, the trend of the faster development of the Croatian construction industry in terms of increasingly complex projects, and the search for quicker and cheaper solutions and achievement of value for money will influence the need for new organizational and management methods. This will have a positive influence in terms of the integration of main project stakeholders and phases, as well as the ultimate success of the entire construction project.

2.5.1.1. Joint Venture

In addition to what is stated above, formation of joint venture is another option. In that the design firm and construction firm agree up on relevant conditions so that they would respond to clients' demand by preparing the proposal and financial offer jointly in response to the client brief. These is very much easier for the companies as well for the competence assurance organization because there is no need of drafting minimum

requirement and other relevant criteria which may consume time and cost. The sole responsibility is shared equally by both firms who temporarily jointed for the sake of bidding.

2.5.1.2. Sub-Contracting

In the case of USA the system also favors an independent company whose major business is only constructing to bid for Design Build project in such a way that it hires a sub-consultant which renders the design service. And also in the vice versa an independent company whose major business is only designing and consulting bid for Design Build projects in such a way that it hires a sub-consultant which renders construction service. These is also easier for the competence assuring body of government because of no need to draft any competence criteria and the current system of competence assurance can still be functional. But finally either way as whether the prime contract is signed by the Design firm or the Construction firm the concept of a single sole company and a sole responsibility goes to whichever company which signed the Prime Contract.

2.5.2. Competence Assurance of DB Firms

Currently in Ethiopia, the competency assurance service the Ministry of Works and Urban Development provides, addresses contractors and design and consulting firms independently. But, there is no customized competence assurance for DB firms. Government through its agents performs the competency assurance service based on the minimum acceptable qualifications. Such as personnel qualification and machineries required for the business. For the sake of deriving the competency assurance minimum required qualification criteria, the government have to study the nature of the business. Once the competence assurance is carried out, it would be convenient for other public bodies to procure their works and services that are merged in the DB system.

2.5.2.1. Pre-qualification for Pure Design and Build

Though the academic background and related experience in terms of practice years may be used as cutting edges for the classes/grades for the companies, the company should have design personnel with the minimum required academic knowledge and practical

skill who practice their profession in the company and also construction professionals with the minimum acceptable academic knowledge and practical skill who practice their profession in the company.

2.5.3. Procuring, Contracting and Execution of Design-Build Projects, the Best Practice Guide of Design Build Institute of America

Design Build Institute of America [18], under this part the Procuring, Contracting and Executing of DB projects and the corresponding detail processes are discussed thoroughly. The practices identified in this document have two basic characteristics:

1) They are written to be universal in applicability, spanning any type of design-build project:
    - public or private
    - vertical or horizontal
    - large or small
2) They are important enough to directly affect project performance.

Stated differently, implementing these practices on any type of design-build project increases the probability of a successful project that meets the expectations of all stakeholders. If these practices are not implemented, there is an increased probability that the project's performance will be compromised and that some or all of the stakeholders will be disappointed. For ease of reference, this document is organized into three primary sections:

i.) Procuring Design-Build Services
ii.) Contracting for Design-Build Services
iii.) Executing the Delivery of Design-Build Projects

Each section contains overarching principles that represent the "best practice." Each best practice is supplemented by several techniques that provide guidance on specific ways to implement the best practice – essentially "mini-best practices." The combination of best practices and implementing techniques are the basis for "design-build done right."

DBIA recognizes that there are real-world differences among design-build market sectors (e.g., water/wastewater, transportation, federal projects), and that specific implementation techniques might differ slightly from one market sector to another. DBIA also recognizes that some owners and practitioners may want further explanation to fully appreciate the thought behind the principles in this document. Additionally, DBIA expects that many users of design-build would benefit from having more detailed guidance on how to put these best practices and implementing techniques into use in different design-build market sectors. Given this, DBIA intends to continually update its portfolio of publications, tools and other resources so that design-build stakeholders will have access to leading-edge information that will allow them to do design-build "right" in accordance with the concepts expressed in this document.

2.5.3.1 Procuring Design-Build Services

Under the process of procurement the owner should make assessment of the project character, implement procurement implementation plan and prepare clear evaluation criteria for competitive bidding. The detail of those processes is as follows;

I. An owner should conduct a proactive and objective assessment of the unique characteristics of its program/project and its organization before deciding to use DB. the following implementing techniques apply:
   a) Owners should understand the potential benefits, limitations, and attributes of design-build and make an informed decision as to whether the use of design-build will benefit their program/project
   b) Owners should create an organization that supports the successful procurement and execution of a design-build project, with key personnel (including those advising/representing the owner) educated and trained in, among other things: (a) the procurement, contracting and execution of design-build projects; and (b) the importance of setting expectations and fostering a collaborative relationship among all members of the project team.
   c) Owners should identify and involve key project stakeholders at the early stages of project planning, as stakeholder goals, expectations, challenges, constraints, and priorities should guide all project planning and procurement

activities, including the determination and implementation of design excellence and sustainability goals.

d) Owners should involve senior leadership that is committed to the success of the design-build process, as this will foster a healthy and trusting relationship among the entire project team.

e) Owners should carefully research and assess current market conditions as they plan their design-build programs, as this will identify potential risks and opportunities. Among the issues to be researched and assessed include: (a) procurement actions that could limit or expand competition; (b) projected labor, material and equipment availability; (c) lessons learned from similar projects; and (d) realism of budget and schedule estimates.

f) Owners should use a rigorous and equitably-balanced project risk assessment process early in the procurement process and update/refine the risk assessment as the project proceeds from procurement through project execution.

g) Owners should understand all procurement constraints imposed or flexibilities afforded by their legislative, regulatory, or internal requirements.

h) Owners should make an early determination of their programmatic position on conflicts-of-interest policy for design-build procurements and promptly disclose this policy to the marketplace that will likely pursue these design-build procurements.

i) Owners should make an early determination about their expectations for the design-builder's role in the start-up,

j) Commissioning and operations of the project and reflect expectations in their procurement approach.

II. An owner should implement a procurement plan that enhances collaboration and other benefits of design-build and is in harmony with the reasons that the owner chose the design-build delivery system. The following implementing techniques apply:

a) Owners should use a procurement process that: (a) focuses heavily on the qualifications of the design-builder and its key team members rather than

price; and (b) rewards design-build teams that have a demonstrated history of successfully collaborating on design-build projects.

b) Owners should use a procurement process that encourages the early participation of key trade contractors.

c) Owners should develop their design-build procurement with the goal of minimizing the use of prescriptive requirements and maximizing the use of performance-based requirements, which will allow the design-build team to meet or exceed the owner's needs through innovation and creativity.

d) Owners should develop realistic project budgets, and provide clarity in their procurement documents about their budgets, including, as applicable: (a) identifying "hard" contract cost/budget ceilings; (b) stating whether target budgets can be exceeded if proposed solutions enhance overall value; and (c) stating whether the owner expects proposers to develop technical proposals that will encompass the entire target budget.

e) Owners should consider the level of effort required by proposers to develop responsive proposals, and should limit the deliverables sought from proposers to only those needed to differentiate among proposers during the selection process.

f) Owners who require project-specific technical submittals (e.g., preliminary designs) for evaluating and selecting the design builder should: (a) use a two-phase procurement process; and (b) limit the requirement for such submittals to the second phase, where the list of proposers has been reduced.

III. An owner using a competitive design-build procurement that seeks price and technical proposals should: (a) establish clear evaluation and selection processes; (b) ensure that the process is fair, open and transparent; and (c) value both technical concepts and price in the selection process. In furtherance of this practice:

a) Owners should perform appropriate front-end tasks (e.g., geotechnical/environmental investigations and permit acquisitions) to enable the owner to: (a) develop a realistic understanding of the project's scope and

budget; and (b) furnish proposers with information that they can reasonably rely upon in establishing their price and other commercial decisions.

b) Owners should appropriately shortlist the number of proposers invited to submit proposals, as this will, among other things, provide the best opportunity for obtaining high quality competition.

c) Owners should provide shortlisted proposers with a draft design-build contract at the outset of the second phase of procurement, which: (a) provides proposers with an opportunity to suggest modifications during the proposal process; and (b) enables proposers to base their proposals on the final version of the contract.

d) Owners should conduct confidential meetings with shortlisted proposers prior to the submission of technical and price proposals, as this encourages the open and candid exchange of concepts, concerns, and ideas.

e) Owners should protect the intellectual property of all proposers and should not disclose such information during the proposal process.

f) Owners should offer a reasonable stipend to unsuccessful shortlisted proposers when the proposal preparation requires a significant level of effort.

g) Owners should ensure that their technical and cost proposal evaluation team members are: (a) trained on the particulars of the procurement process; (b) unbiased; and (c) undertake their reviews and evaluations in a manner consistent with the philosophy and methodology described in the procurement documents.

h) Owners should ensure that technical review teams do not have access to financial/price proposals until after completion of the scoring of the technical proposals.

i) Owners should provide unsuccessful proposers with an opportunity to participate in an informative debriefing session.

2.5.3.2. Contracting For Design-Build Services

Under the process of contracting, contracts should be fair and clear, should touch the unique aspect of the project and the process in the performing of the contract. The detail of those processes is as follows;

I. Contracts used on design-build projects should be fair, balanced and clear, and should promote the collaborative aspects inherent in the design-build process. The following implementation techniques apply
   a) Contracting parties should proactively and cooperatively identify significant project-specific risks and clearly identify in the contract how such risks will be handled.
   b) Contracts should reasonably allocate risks to the party that is best capable of addressing and mitigating the risk.
   c) Contracts should use language that is understandable to those personnel who are administering the project.
   d) Contracts should encourage, rather than hinder, communications among project stakeholders.
   e) Contracts should contain a fair process that facilitates and expedites the review and resolution of potential changes to the contract and adjustments in the contract price and time.
   f) Contracts should contain a dispute resolution process that promotes the prompt identification and resolution of disputes at the lowest possible level of hierarchy within the parties' organizations.

II. The contract between the owner and design-builder should address the unique aspects of the design-build process, including expected standards of care for design services. The following implementation techniques apply
   a) Owners should, consistent with their overall procurement strategy, evaluate and use appropriate contractual incentives that facilitate the alignment of the performance of their design-build teams with the owner's project goals.
   b) If the design-builder is expected to meet performance guarantees, the contract should clearly identify such guarantees, and the guarantees should be capable

of being measured and reasonably achievable by a design-builder performing its work in a commercially reasonable fashion.

c) The contract should clearly specify the owner's role during project execution, particularly relative to: (a) the process for the design-builder reporting to and communicating/meeting with the owner; (b) the owner's role in acting upon design and other required submittals; and (c) the owner's role, if any, in QA/QC.

d) The contract should clearly define the role of the designer(s)-of-record and how it/they will communicate with the owner.

e) The contract should clearly define the commissioning and project closeout processes, including documentation associated with such processes.

f) The contract should clearly define requirements for achieving project milestones, inclusive of substantial completion, final completion and final payment.

III. The contracts between the design-builder and its team members should address the unique aspects of the design-build process. The following implementation techniques apply

a) During the proposal phase, the design-builder should use written teaming agreements with each team member to develop and capture an understanding of their relationship and key commercial aspects of their relationship.

b) The design-builder and its designer(s) should develop an understanding, at the outset of their relationship, of the key commercial aspects of their relationship, including: (a) the designer's compensation, if any, during the proposal period; (b) the designer's role in reviewing/approving the proposal; (c) the contractual liability of the designer for problems, including delays, during execution; and (d) the designer's right to use project contingency for its execution-related problems, and capture these understandings in the written teaming agreement.

c) The contract should reflect that designer(s)-of-record are regularly and actively involved throughout the project's execution.

d) The contract should establish the role and primary responsibilities that each party has relative to the design process.
e) The contract should ensure that there is a clear understanding as to how the team members will communicate with each other and with the owner, including meetings that each party is expected to attend.
f) The contract should have a clear and commercially-appropriate "flow-down" of obligations from the prime design-build contract.

2.5.3.3. Executing For Design-Build Services

Under the process of execution/implementing the project, the DB team should be trained to change their mind set up, the project team should make available of the logistics and infrastructure, should establish processes to facilitate timely and effective communication and design management and commissioning procurement. The detail of those processes is as follows;

I. All design-build team members should be educated and trained in the design-build process, and be knowledgeable of the differences between design-build and other delivery systems. The following implementation techniques apply
   a) All members of the design-build team must understand that the project's success is dependent on the ability of the team members to work collaboratively and to trust that each member is committed to working in the best interests of the project.
   b) Projects should be staffed with individuals that are educated and experienced in the implementation of design-build best practices, and whose personalities are well-suited to the collaborative nature of the design-build process.
   c) All project teams should have senior leadership committed to the success of their projects and actively supportive of design build best practices.
   d) The design-builder should recognize the benefit of including experienced design-build trade contractors on its team.
II. The project team should establish logistics and infrastructure to support integrated project delivery. The following implementation techniques apply

a) Owners and the appropriate members of the design-builder's team should co-locate when justified by project characteristics (e.g., project's complexity and volume of design submittals
b) Design-builders should strive to have their design and construction teams working in the same place as often as possible, including co-location if practical.
c) Owners and design-builders should ensure that the administrative processes established for project execution are appropriate, well-understood and expeditious.

III. The project team, at the outset of the project, should establish processes to facilitate timely and effective communication, collaboration, and issue resolution.

a) The owner and design-builder should develop and use a structured partnering process, scaled appropriately to reflect the project's size and complexity.
b) The owner and design-builder should create an executive leadership group, including individuals from key members of the design-builder's team (e.g. designer(s)-of-record and key subcontractors) to meet regularly, monitor the project's execution, and facilitate the understanding and achievement of the parties' mutual goals.
c) The owner and design-builder should develop processes that enable key stakeholders (e.g., government agencies and third party operators) to interface directly with the design-builder and its design professionals on significant elements of the work.
d) The owner and design-builder should, at the outset of the project, endorse and liberally use techniques that effectively integrate design and construction activities and take steps to continue these processes throughout the duration of the project.
e) The owner should be fully engaged and prepared to make the timely decisions necessary to facilitate the design-builder's performance, including being represented by staff that has the authority to make decisions and perform its project functions.

f) The design-builder should clearly, thoroughly and expeditiously advise the owner about any issues that might impact the contract price or schedule, as this will, among other things, enable the owner to make an informed decision as to how to address such issues.

IV. The project team should focus on the design management and commissioning/turnover processes and ensure that there is alignment among the team as to how to execute these processes. The following implementing techniques apply

a) The owner and design-builder should acknowledge the significant level of effort required to manage the development and review of the design and, consequently: (a) dedicate sufficient resources to foster a collaborative environment for this work; and (b) mutually develop a realistic design development plan that efficiently engages the owner and key members of the design-builder's team (e.g., designer(s)-of-record and key subcontractors) in purposeful meetings.

b) The owner and design-builder should agree upon clear, realistic and expeditious submittal and review/approval processes that are in harmony with the parties' schedule and other project-specific goals.

c) The design-builder should ensure that design advancement and changes to the contract documents are clearly, thoroughly, and contemporaneously documented, and that there is a clear understanding as to when the owner is integrated into the decision making process for and notified of such advancement and changes.

d) The design-builder and its team should: (a) establish a trend system early in the design development process to identify, track and evaluate any potential changes before they adversely impact the project's cost or schedule; (b) clearly, thoroughly, and contemporaneously communicate to the owner the information derived from the trend system; and (c) maintain the trend system throughout the construction process until it is no longer needed.

2.6. SUCCESS DETERMINING CONDITIONS OF DB PROJECTS AND THE PERFORMING CONTRACTORS

Shenhar and Wideman[19],prepared a paper titled 'Optimizing Success by matching management style to project type'. The paper listed a connecting thread that would lead to better understanding of the project management process, and hence to higher levels of project success which are

- The meaning of project success
- The nature of fundamentally different types of project
- Their technological content
- Their scope and degree of complexity
- The nature of project work
- Project leader personality traits and consequent management styles, and
- Selection of most appropriate project leader for best chance of project success.

As the author, projects are not only unique undertakings but their range in objectives; size, complexity and technology (areas of project management application) are almost limitless.

Table 2.3, Primary Success Categories and Measurable Success Indicators

Primary Success Category	Measurable Key Success Indicators (KSIs
Internal Project Efficiency (Pre-completion)	- Meeting schedule - Completing within budget - Other resource constraints met
Impact of the Customer (Short term)	- Meeting functional performance - Meeting technical specifications & standards - Favorable impact on customer, customer's gain - Fulfilling customer's needs - Solving customer's problem - Customer is using product - Customer expresses satisfaction
Business and Direct Success (Medium term)	- Immediate business/commercial recognition - Immediate revenue & profits enhanced - Larger market share generated

Preparing for the Future (Long term)	- Will create new opportunities for the future - Will position customer competitively - Will create new market - Will assist in developing new technology - Will add/has added capabilities & competencies

(Shenhar and Wideman[19])

Finally the authors concluded by forwarding their opinion as, the balance between intellectualism and craftsmanship, that is, between "brain and brawn" as some might put it, is what determines the most appropriate management style for producing that element. This recognizes that to attain the highest potential on a large complex project, one single management style may not be appropriate throughout the project organization and certainly not through all phases of the project life cycle. It is evident that failure to match an appropriate style to project circumstances can quickly demoralize the project work force and lead to unsatisfactory project results.

Adelback and Johansson [20], on their master's thesis on the topic 'Success Factors in Large Infrastructure Projects: The contractor's perspective', stated that, the most appropriate time to evaluate a project is after completion. However, this is seldom done because a completed project is most often seen as the end of an old chapter. Four case studies were performed in order to highlight factors that contribute to project success, from a contractor's perspective, in large infrastructure projects. In total, fifteen qualitative interviews were performed with the contractor's project management from four completed projects that all was considered successful by the contractor. In addition, a mini-survey was performed with each interviewee in order to map the project management perception of the success in the four projects. Which are:-

- Case 1is a complex inner city project that connects two European highways. The project comprised one long overpass and some additional small bridges.
- Case 2 is a 3.6 km long route of road and railway. Along the distance there are both residential areas and industrial activities, which mean that the work environment can be considered as urban.

- Case 3, the project comprised one 20 km long road with 2 + 1 and 1 + 1 lanes and a mid-rail. In addition, 11 bridges were built, including one relatively large bridge.
- Case 4 consisted of an 830 meter long road section with two tunnels that connects two European highways.

Finally the studied success factors are suitable within respectively project but they are not necessary general factors that are suitable into the entire industry due to the fact that each project has its own unique conditions. Furthermore, it is not possible to ensure project success by fulfilling the success factors but they will provide a higher tendency to do so if more success factors are being met. Some of the
more prominent but also general success factors that were mentioned during the interviewees were;

- Establish a trust-based relationship with the client and ensure to solve issues as a joint team.
- Clear defined roles within the organization to make sure everyone know what to do.
- Sufficient with resources in the beginning of the project in order to make the right decisions.
- Focusing on technically advantageous solutions in order to build faster, safer and with improved quality.
- In depth understanding of the tender document.

As it has been proofed many times, a project is a function of balancing the competing demands for quality, scope, time and cost. Thus, the success and failure of a project is measurable through the balance in between those four aspects. A project delivered at the right time at the pre-determined cost within the scope and quality parameters is said to be successful. The failure to meet one is equally a failure to meet all. The case of many public projects in Ethiopia shares the former scenario. Be it from the negligence or incapability of one or the entire project stalk holders, public projects have failed to be delivered within the stipulated cost, time, quality and scope. Since project success is defined as project completed on time, within budget and meeting requirements from a

project process perspective. Those Ethiopian Public projects are considered to be not successful.

Lahdenpera[21], on a study on DB procedures, illustrated and compared US modes. The author focused on the design-build practice as applied in the United States of America and defined DB delivery as the party; design-builder is responsible for both the design and construction of a project under a single agreement. Furthermore, it stated regarding the success of DB delivery that, there is no single factor that can guarantee success. However, it can be argued that the organizational framework of a building project is one of the most important factors contributing to successful realization of a project since it creates conditions and gives incentives for profitability.

Kalwane and Waghmarec[22]made a research on Identification of factors influencing the success of a construction projects, any project requires the application of workmanship and exploration of project management. The method they used are literature review and questionnaire sent to experts in the construction industry to get response for which factors affect the success of construction projects according to their professional experience. The research findings are: The effective program management however has its foundations in the project management, however the two are not the same; thus the two however are connected yet their Critical Success Factors s may likewise be connected, in any case, may never be the same. To successfully oversee construction programs, the program management groups are required to nearly inspect and set up those factors that are critical to the success of their projects. In accordance with these surges of thought and the results of the discourses above, more observational looks into are required on the relationship of human resource management related critical success factors with project success and authoritative success in construction project management setting. Contemporary experimental research on inside administrative factors will enormously instrumental for the advancement of the industry. The level of technology required the level of complexity of the devices and strategies in addition to the sorts and number of work force included will rely on upon the size multifaceted

nature or nature of the project. Thus, managing the workman would one of many project success determining factors.

From a Project Management point of view, critical success factors (CSFs) are qualities, conditions, on the other hand factors that can significantly affect the success of the project when legitimately supported, kept up, or oversaw (Milosevic and Patanakul as cited by kalwane and Waghmare[22].The same author has prepared tabular lists of critical project success factors.

Table 2.4. Critical Construction Project Success Factors: Project character, Financial character, Technical factors and Contractual arrangement

Categories	Critical Success Factors	**Categories**	Critical Success Factors
Project Characteristics	Political & Social Support		Regular budget update
	Technical Approval		High inflation rate/ fluctuation rate of material price
	Authorities	**Technical Factors**	Geotechnical Conditions
	Economic & Physical environment		Advanced Technology
	Adequacy of Funding & Constructability		Quality of Work
	Project Size, value ,nature and complexity		Workmanship and work method
	Site condition and project location		Availability of Resource
	Project Planning ,control, technical feasibility & Site condition		Changes in material type and specification during construction
	Attempting to deliver projects systematically		Shortage of Construction Materials
	Competition in market		Strategic Focus on Programs
	Delay in material delivery & damage of materials when deeded urgently		Easiness of Techniques Used
	appropriate organization structure & Proper coordination of projects		Reluctant in using innovative building Materials
	Cross project coordination	**Contractual Arrangement**	Risk identification & Allocation
	Simplicity of program		Adequacy of plans and specifications
	Subcontractors' support		Formal Dispute resolution process
	Rapid changes in the national economy/ economic environment		Realistic Cost & Time Estimates
	Bribe/corruption and favourism		Formation of Strong partnership
Financial	Availability of financial resources		Delay in Project approval

characte ristics	before project execution		
	Estimated financial budget		Selecting right partner
	Bank's policy for the type and quantity of financial recourses		Pricing and Tendering method
	Company's cash availability during construction		Instability and inefficiency of government policies and legal systems
	Client's availability of funding during construction		Construction regulations and standards

Table 2.6.3. Critical Construction Project Success Factors: Project participants and Interactive Process

Categories	Critical Success Factors	**Categories**	Critical Success Factors
Project participants	Clarity of roles and responsibilities	**Interactive Process**	Construction Communication
	Project team leader's experience and technical skill		Functional plan
	Competency & Capability of project team member		Design complete at construction start
	Project manager commitment & involvement		Level of skilled labor required
	Top management support		Report & Budget updates
	Project team track record		Design control meetings
	Project team level of service		Construction control meetings
	Project leader stability		Site inspection
	Motivating skills of project team leaders		Work organization chart
	Project team members adaptability to changes in the project plan		Motivational factor
	Awareness and knowledge of the process for implementation of project		Relationships
	Education and training of risk management		Quality control & assurance
	Cross discipline coordination& Problem Solving		Health and safety program
	Effective performance management		Technology transfer
	Positive attitude of project participants		Access to risk management system's consultants
	Timely decision by the client or his engineer		Client satisfaction
	Provision of project guidelines to project participants		Unclear and inadequate details by the client

	Encouraging new ideas by project participants		Interference of client in contractor's construction methods
	Effective monitoring and feedback of project participants		Feedback capabilities of client
	Frequent project monitoring/ progress meetings		Clients emphasis on high quality construction
	Effective allocation and control of manpower		Clients emphasis on quick construction
	High degree of trust shared by project participants		

(Kalwane and Waghmarec[22])

Chan et al. [35] studied the factors affecting the success of a construction project to develop a conceptual framework on critical success factors (CSFs). The author reviewed seven major journals in the construction field regarding project success and five major groups of independent variables, namely project-related factors; project procedures, project management actions, human related factors, and external environment are identified as crucial to project success. And finally the paper concluded that, a new conceptual framework that includes and regroups the identified variables affecting project success is developed. Hypotheses on implementing a project successfully have been developed. It can be used as a base for further detailed investigation on general construction projects, as well as a specific project, such as hospital or hotel. A more systematic way of determining project success is established. The causal relationships, once identified, will be a useful piece of information to implement a project successfully. It can help in selecting project team members, identifying the development needs of the project team members, and most important for forecasting the performance level of a construction project before it commences.

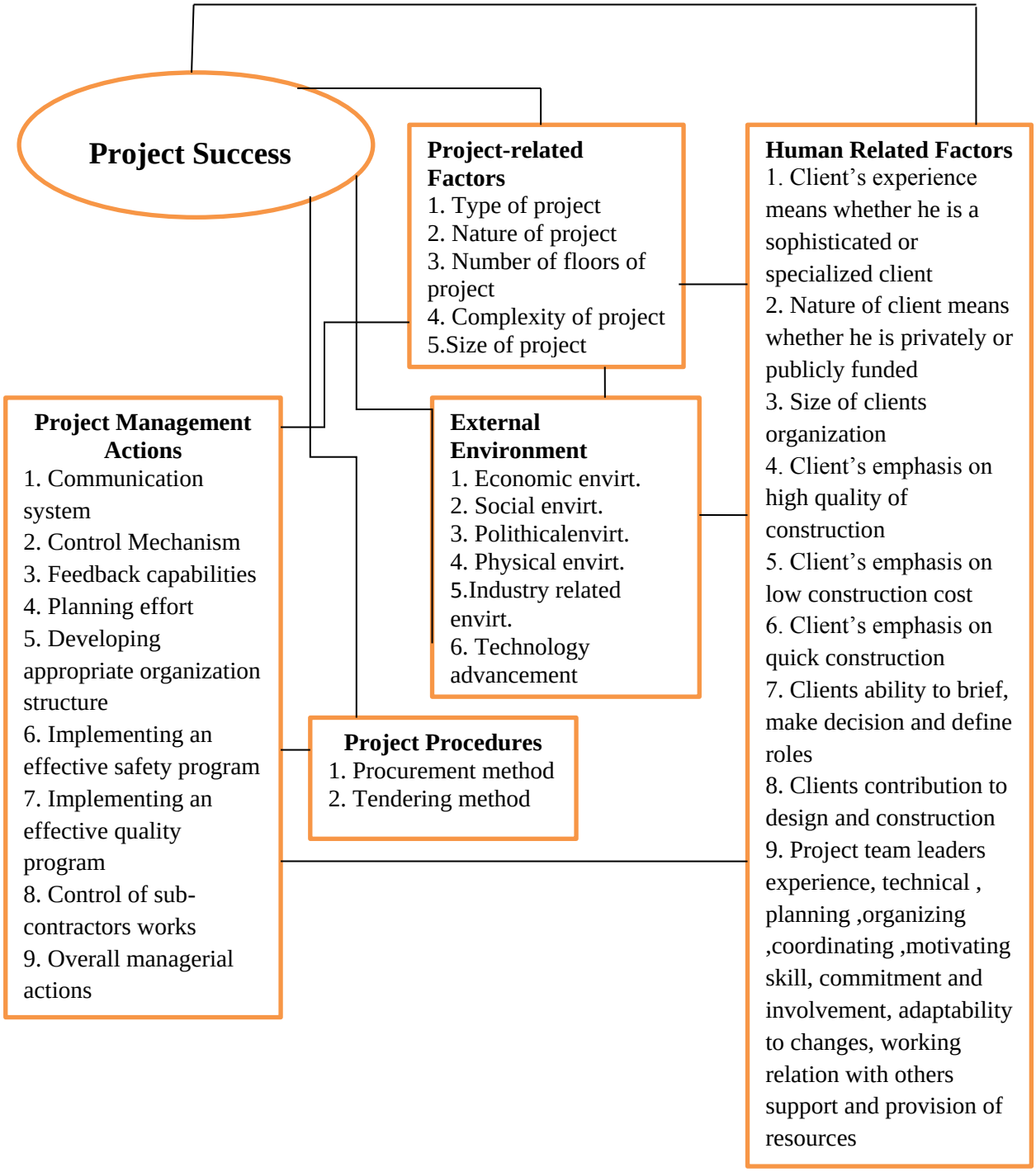

Figure 2.6.1 new conceptual framework for factors affecting project success, (Chan et al. [15])

As it has been stated on many literatures among the most critical factors that needs special and continuous attention for a project's success are:

- The first category of factors is a well-organized, cohesive facility team to manage, plan, design, construct, and operate the facility.
- The second is a series of contracts that allows and encourages the various specialists to behave as a team without conflicts of interest and differing goals,
- The third is experience in the management, planning, design, construction and operations of similar facilities and
- The fourth is timely valuable optimization information from the owner, user, designer, contractor, and operator in the planning and design phases of the facility.

2.7. METHODS OF TRANSFORMING CAPABILITY OF INDIGENOUS CONTRACTORS

2.7.1. Through Technology Transfer

As stated by Pinang[48], in construction the formation of joint-ventures between local and foreign contractors has been recommended as the integration of local and foreign constructors can facilitate the transfer of technology. In almost every major public sector construction project that involves foreign contractors, technology transfer has been specified as one of the objectives with such intention included in the contractual agreement adopted by parties involved. It is expected that, at the end of the contract period, a substantial degree of technology has been imparted by foreign international contractors to indigenous contractors of host countries who will then, be able to play a major role in undertaking similar projects in the future.

2.8. PROCUREMENT DIRECTIVES AND PROCLAMATIONS WITH REGARD TO FAVORING LOCAL DB CONTRACTORS

The Federal Democratic Republic of Ethiopia, Federal Public Procurement Directive, set by Ministry of Finance & Economic Development in June 2010 was reviewed along with the Ethiopian Federal Government Procurement and Property Administration Proclamation thoroughly for the research.

2.8.1. From Foreign Competitors Point of View

According to Public procurement agency directive (2010), Article 17, Sub article 2 the value of the contract for works above Birr 50,000,000.00 (Birr Fifty Million) were considered to be procured in International Competitive Bidding (ICB). Later it was amended in 2015(Shown in the Appendix) to be Birr 150,000,000.00 (Birr One Hundred Fifty Million).Because of the invitation through the recommended media in the proclamation, more international companies tend to bid. The fact that international companies come up with the greater advantages than the local ones due to numerous reasons but to state some,

- ✓ International suppliers come from more developed countries so they are financially more stronger
- ✓ The financial strength gives them access to use more advanced machineries and construction materials
- ✓ Due to more developed banking and insurance facility in their country of origin, they have good advantage in terms of liquid asset and credit lines
- ✓ They have more experience and technical profile
- ✓ They have more personnel with versatile practical skills because of their education curriculum
- ✓ Even after they are awarded and get paid for the work, they will not have a tendency to re-invest they capital they acquired

In such a way to clarify the above article of the directive, Public Procurement Agency (2011),stated that due to lack of capacity within Ethiopia, there is either no or only limited competition for the provision of specific work. Thus, a public body shall

undertake special efforts to improve the level of competition by seeking bids from foreign bidders to accomplish their procurement requirements. On the other side, the competency assuring agency: Ministry of Works and Urban Development (MoWUD) has the power to assure classes/grades of contractors and the respective upper contracting value bound t. Thus any General Contractor or Road Contractor or Building Contractor of Grade 1 has the capability to procure for the works in their respective business areas because of their highest competence in the country.

2.8.2. From Local Competitors Point of View

The procurement directive majorly bases it-self on the project cost. But a couple of the advertised bids had a scope that even lower competency class companies could perform. The procurement directive must adapt it-self with the market condition. For instance sixty million birr project right before the 2010 directive will never be the same as the current project of equal monetary value because of the devaluation of our currency. Thus the upper bound set for respective classes of companies must be revised frequently so that lower class companies get the chance to procure and build capacity to engage in bigger projects.

2.8.3. From Administrative Contracts Point of View

Public procurement and property administration agency must adapt its directives in a way that incorporates the unique features of DB project delivery system that is unlikely to the conventional DBB system. What has been practiced in USA is that, in 1996 the federal government changed its procurement laws to allow design–build, and the states began to follow suit, Harness [7].

2.9. POSSIBILITY OF APPLICABILITY OF DB PROJECT DELIVERY SYSTEM FOR PUBLIC PROJECTS

The category of infrastructure which is designed and constructed in every locality besides roads are schools, hospitals, veterinary clinics, water supply systems, recreational facilities public offices and the like. These infrastructures mostly comprises of the system of building. As Lahdenpera[21], the implementation of a building project involves the cooperation of many parties: the owner, various designers, contractors and suppliers. Consequently, among the numerous project delivery methods for establishing the division of labor between these parties, their contractual and operational relations, and the rules of the game in general, DB is our core interest here. The author also stated the right method may help avoid problems and be the key to the attainment of project-specific special goals. These goals may include, for instance, quick project completion, low acquisition price, practical assignment of risk between the parties, and providing the owner the possibility to affect the details of the design solution and the amount of self-performed work, etc.

Currently ERA is implementing numerous road projects delivered through DB basis both with local and international contractors. From possible list of reasons that ERA has chosen the delivery in plenty of road projects is that,

- ✓ To share risk, this was exclusively covered under the cost of the client. For instance the risk of unanticipated sub-surface conditions was one major threat. In addition to that, any costs and delays related to design errors or omissions were absorbed by the client but with the switch to DB project delivery those risks are the contractors'.
- ✓ to save time in that at times when plenty of projects are launched, the study, design, quantifying and successive bidding for a single project is costly
- ✓ Instead of playing a role of designer, contractor and client at a time, the authority has managed to be a client and hire a design firm for preparation of concept design based on which the DB contractor bids

- ✓ As the scope of works widens there is need to carryout division of labor
- ✓ International creditors and aid organizations has also influence on who does what and on what basis
- ✓ When the client takes the full responsibility of design, the contractor will have the chance to take advantage of changes and variations. Which in turn prolongs completion time and exceeds cost very much
- ✓ To reduce the number of key actors as well to reduce the number of contracts
- ✓ As a profit organization the DB contractor comes up with a modern and efficient methodology. Thus, manages cost so that it gets incentive due to engineered value of the project
- ✓ As Lahdenpera[21], Design-build in particular, offers the possibility of a wider scope of services according to the single point of responsibility

Like Wise ERA many more public bodies which enters administrative contract through DB basis will gain many advantages. For instance, instead of studying and detail design and specification preparation for bidding which consumes time not much lesser than the construction process, the client would hire a consultant who renders to carry out only concept design and prepares bid document for the bid by DB contractors.

2.10. PROCEDURES OF PROCURING FOR WORKS FROM DB COMPANIES

The basic concept of Design and Build approach is for the organization requiring the project to be contracted with a single organization that would be responsible for design, procurement, and engineering and commissioning. According to ACC [14], one possibility out of many procedures is that, the owner often hires a design firm to produce a program which may include performance specifications (sometimes called "outline specifications" for the project. The owner uses the outline specifications to define the project for the design-builder. The design-builder then assembles a construction team, including a design firm. The design firm uses the owner's outline specifications to create a set of construction drawings and specifications to build the project. If design errors occur in the construction drawings or specifications, the design-builder resolves the issues with the design firm. Design-Build projects are frequently done on what is called a "fast track,"

where the design firm is literally designing the project at the same time that it is being built.

2.10.1. Tendering Approaches Suited to DB Delivery

In the paper titled project tendering, by Davis and Stafford[40], project tendering is defined as the process by which bids are invited from interested construction contractors to carry out specific packages of construction work. The tendering process is an important means by which a fair price and best value for undertaking the works is obtained. In addition, the tendering process should adopt and observe the key values of fairness, clarity, simplicity and accountability, as well as establish the concept of apportionment of risk to the party best placed to assess and manage it. The principle of tendering is to ensure that true competition is achieved, and tenders received are evaluated by applying certain financial and technical criteria. Among a variety of approaches, call for registration, expression of interest, request for information, request for quotation, request for proposal, request for tender.

The process of request for tender as described by Davis and Stafford[40], involves three universally applicable stages which are listed below.

1. Tender Preparation, it comprises project definition and scoping, selection process of tenderers, tender documentation and selection process.
2. Tender period, it comprises call for tenders, responding to invitations to tender and developing the commercial offer, tender meeting and enquiries, amendment to tender documents and submission and closing of tenders
3. Tender evaluation, it comprises tender analysis, tender clarifications and tender selection and award

2.10.2. Types of Contracts on DB Projects

As stated by ACC [14], a cost plus with a guaranteed maximum price (GMP) is a very common basis for a design-build agreement in that the design portion of a design-build contract is usually excluded from the cost of the work and is paid on a lump-sum or an

hourly basis with a not-to-exceed maximum and also when the design is sufficiently complete to estimate the cost of the work, the owner and design-builder agree on a GMP. Cost plus fee or without a guaranteed Maximum Price is Contracts in which the basis of payment is the actual cost of the work, plus a fee to the contractor for the contractor's overhead and profit. These types of contracts are often favored by owners because the contractor does not have to include a large contingency to cover all unanticipated costs, as is necessary with a lump sum contract, ACC [14].In most cases the owner requires to budget for the whole operation. Thus, the contractor is required to set the GMP based on prior designed plans and specifications. GMP is the upper most bound cost for the project in which any additional cost beyond it will be covered by the contractor it-self. On the contrary a cost reduced by the contractor in the operation of the project (Due to Value Engineering) will be shared between the contractor and the owner. In the Case of ERA on a DB delivered road project, it used the lump sum mode of payment.

2.10.3. Procurement Practices of ERA with Local & Foreign Contractors

Ethiopian Roads Authority is currently procuring its road construction works through delivery methods of both DB and DBB. The main characteristic of DBB delivery method is that the design and construction phases of a project are completely sequential to one another and do not overlap. The authority lets the bid only when the design is fully completed and detailed with another design and supervision firm. The underlying assumption behind DBB is that any qualified construction firm will produce the same product from a given set of plans and specifications, especially when plans and specifications are complete and properly written.

The serious of steps the authority follows are in accordance to the Proclamation No 649/2009 of FDRE Negarit Gazeta,

I. As per article 35 , of the proclamation it advertise the invitation to bid (as shown on the Appendix I)
II. Then as per article 37 -40 of the proclamation it gives the prepared bid document to the candidates (it comprises of conditions of contract, instruction to bidders,

form of bid forms of agreement, dispute settlement procedure, eligible countries, employers requirement etc…as attached in the Appendix)

III. Submission of bids in accordance with article 41 of the proclamation

IV. Opening of bids and preliminary evaluation in accordance with article 41 of the proclamation

V. Examination and evaluation of bids in accordance with article 43 of the proclamation, which takes place in the procurement department of ERA keeping the ethics of confidentiality.

VI. Notification of award and signing of contract as per article 46 of the proclamation

When using DBB, a sequential process begins with advertising, evaluating and awarding a designer, to furnish complete design services, and then advertising, evaluating and awarding a separate construction contract based on the client brief and completed construction design documents and specifications respectively. Thus, the contractor is liable to only the quality of works and the supervisor checks the quality of the work if it is performed in accordance with the detail design and specification. In some projects the supervision service is outsourced to another firm. In this arrangement, ERA's engineers function as counterparts to their organization. In the tendering for the construction work, computing contractors offer prices on the quantities of works and specifications set by the designer. Then the payment basis will be based on the measured quantities of work actually performed by the contractor while maintaining the scope and quality of the work.

In the case of projects delivered through DB basis, unlike the basic principle of a single contract, the authority advertises two consecutive tenders and concludes two contracts with two different firms. The first one is to buy the design service and the second one is for the purchase of the works. After once the design service is purchased, the awarded designer carries out concept design which only comprises the scope of the road project and most probable design standards to be adopted based on the design traffic. Then recommends a road design class which comprises the widths of the carriage way and shoulder at different terrains and weather it is paved or not, project length and (but not limited to) the junctions the road should pass through. Finally the prepared crude design

document will be used as the baseline for the DB contractors to compute on. Though the procedures for both tenders: the design service and the construction work may seem similar, the requirements and the payment basis are different. In the case of contracts of works on DB, the computing bid price is lump sum which is to be paid later up on the completion of the work on the milestone basis, in which based on the pre-fixed arrangements, the client pays. In the process of bid evaluation also, unlike to the value and price evaluation principle DB evaluators use in other nations, the authority is currently awarding to the lowest price quoting responsive bidder.

The variation of DB delivery strategy practiced by ERA is more of similar to the unique mode of it employed by the US navy in some projects and called 'Newport design/build method'. Mouritsen, (1993) as cited by McWhirt[45],the Newport design/build method was a unique procurement strategy which combined design-build's single source of responsibility with lump-sum, competitive bids. Under this method, bidders were not required to produce technical proposals. Rather, the Navy would provide a performance specification and fundamental design parameters. The bidders were then expected to perform final detailing of the projects. The contract also contained a clause that allowed it to be closed out if the Navy was not satisfied with the functionality or aesthetics of the facility after the design-builder completed the design.

2.10.4. Procurement Practices of USA on Federal Projects

Kovars *et al.* [23], on a research on Design-Build on Federal Construction Projects in U.S., federal design-build procurement must be conducted in accordance with Federal Acquisition Regulation (FAR) subparts 15 and 36. FAR subpart 36, "Construction and Architect-Engineer Contracts," governs the award of both design-build and design-bid-build contracts. The requirements for the selection of design-builders are set forth in subpart 36.3, "Two-Phase Design-Build Selection Procedures. The author continues as the preparation of a design-build proposal is an expensive undertaking, the first of the two phases is primarily aimed at identifying the few best-qualified design-builders to invite to participate in proposal preparation. Thus, before invoking the two-phase

approach, the contracting officer must determine that two-phase approach is appropriate; the primary criteria for making this determination are;

(1) Three or more offers for the procurement are anticipated and

(2) Design work must be performed by the offerers in order to develop price or cost proposals, and therefore the offerors will incur substantial expense in preparing offers.

In addition to these considerations, the contracting officer also must consider the extent to which project requirements have been adequately identified, the time constraints for delivery of the project, the capability and experience of the potential offerors, the suitability of the project for the two-phase selection method, and the agency's ability to manage a two-phase solicitation. To see the two phases and their importance one by one; the aim of phase one is to limit the field of competitors and the aim of phase two is to identify the best-qualified proposer with whom to negotiate a contract.

The phase one solicitation must include:

1) a statement of the scope of the work to be procured;
2) the phase one evaluation factors, including:
    a) general technical approach (detailed design or technical information is not provided until phase two),
    b) technical qualifications, such as specialized experience and technical competence, capability to satisfy the project requirements, and past performance of the design-build team (i.e., design and construction members, including subcontractors), and
    c) other non-cost or price-related factors appropriate to narrowing the field of proposers;
3) the phase two evaluation factors, such as design concepts, management approach, key personnel, and proposed technical solutions; and
4) a statement of the maximum number of offerors that will be selected to submit phase two proposals. (No more than five, absent a determination by the contracting officer that a greater number is in the Government's interest and is consistent with the objectives of the two-phase design-build contracting).

Upon the submission of the phase one proposals, the contracting officer must identify the most highly qualified offerors (not to exceed the number set forth in the solicitation) and request only those offerors to submit phase two proposals.

After the phase one evaluation has narrowed the field to include only the few "most highly qualified offerors," phase two—the competitive negotiations—begins. FAR subpart 15 provides most of the operative language on the phase two process, setting forth the rules for "competitive acquisitions" where the aim is the selection of the "proposal representing the best value to the Government.

CHAPTER III

RESEARCH DESIGN AND METHODS

This chapter deals with methods of the study, sources of data, instruments of data collection and data analysis procedures.

3.1. RESEARCH DESIGN

The purpose of the research was to explore the possible ways which will result in favoring for better working environment to local DB contractors. To meet the purpose the researcher has chosen mixed methods research design. Mixed method design has proven

itself as it is important to obtain more detailed and specific information that can be gained from the results of statistical tests. Creswell[34], noted that a mixed methods research design is used to collect quantitative and qualitative data simultaneously or sequentially, which helps to have one form of data; play a supportive role to the other form of data. Thus, the comparison of the results was done from two different analyses, weather they support or contradict each other.

3.1.1. Description of the Sample Project

The project was carried out in Ethiopia regarding the investigation of possible solutions to favor local DB companies to compete with foreign ones.

3.2. METHODS

The practice of a major client which utilizes DB on several projects was chosen. Then the practice of the bid evaluation and the criteria the company sets in technical and financial evaluation was analyzed. The existing local bidders favoring conditions which the authority applies in day to day practice of bid evaluation and what the directive set by Federal Ministry of Finance and Economic Development, Public procurement and property administration agency manual, amendments in different times and proclamations were all cross checked. The sources of quantitative and qualitative data were the respondents of the questionnaire and the interview interchangeably. The questionnaire was responded by all permanent staff members of the Ethiopian Roads Authority engineering procurement directorate of which are about twenty staff members only and one team leader. Under some circumstances to assist the load, the department utilizes additional members from other districts. But, the questionnaire was filled by the permanent staff members only and the subsequent interviews and discussions were made with the procurement directorate head. Each and every construction project the authority procures is evaluated by the for-mentioned department. Finally ,the filled questionnaires, the relevant supporting documents and the directives the department applies in its day to day evaluation was collected from the department head for further analysis and result interpretation by the researcher.

3.2.1. Methods of Data Analysis

Mixed research method was used to get adequate data regarding the topic in which for the close ended questions, the quantitative method by categorizing and tabulating was utilized and the tabulated data were expressed in simple descriptive tools like percentage to indicate general inclination respectively. For the open ended questions and the interview qualitative data were recorded, analyzed for interpretation in to sub-categories and themes and the responses were narrated.

CHAPTER IV

RESULTS AND DISCUSSION

The collected primary and secondary data were analyzed and the results obtained are presented according to the respective data source. Then the discussions are made based on the corresponding results obtained.

4.1. RESULTS

4.1.1. Analysis Results of Closed End Questions

The questionnaire comprises two closed ended questions and open ended questions for the sake of collecting any supporting data from the respondents. Among the two close ended questions the first one is regarding the relevant criteria that local DB contractors fail to achieve most and the responses are rated as 5 for Most frequent,4 for Frequent, 3 for Less frequent, 2 for rarely and 1 for never.

Table 4.1.1.Summary of responses from the questionnaire regarding personnel requirement and financial capability of local DB contractor

No	Items	Frequency & percentage	5	4	3	2	1
1	Personnel requirement for construction crew	f	0	0	3	16	2
		%	0.00	0.00	14.29	76.19	9.52
2	Personnel requirement for design crew	f	0	1	3	15	2
		%	0.00	4.76	14.29	71.43	9.52

(Summary of questionnaire respondents' responses)

In item No. 1 of table 4.1, 3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required personnel requirement for the construction crew, 16 out of 21respondents or 76.19% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required personnel requirement for the construction crew and finally 2 out of 21respondents or 9.52% of all the respondents answered that they have 'never 'encountered the failure to achieve the required personnel for the construction crew by most local DB contractors. But none of the respondents encountered the problem of local DB contractors when they fail to achieve the required personnel for the construction crew 'most frequently' and 'frequently'.

In item No. 1 of table 4.1, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'frequently fail to achieve the required personnel requirement for the design crew, 3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required personnel requirement for the design crew, 15 out of 21respondents or 71.43% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required personnel requirement for the design crew and finally 2 out of 21respondents or 9.52% of all the respondents answered that they have 'never' encountered the failure to achieve the required personnel for the design crew by most local DB contractors. But none of the respondents encountered the problem of local DB contractors when they fail to achieve the required personnel for the design crew 'most frequently'.

Table 4.1.2.Summary of responses from the questionnaire respondents regarding financial and equipment capability of the local DB contractor

No	Items	Frequency & percentage	5	4	3	2	1
3	Financial capability	F	15	5	1	0	0
		%	71.43	23.81	4.76	0.00	0.00
4	Equipment capability	F	0	6	12	3	0
		%	0.00	28.57	57.14	14.29	0.00

(Summary of questionnaire respondents' responses)

In item No. 3 of table 4.2, 15 out of 21respondents or 71.43% of all the respondents answered that most local DB contractors 'most frequently' fail to achieve the required financial capability, 5 out of 21 respondents or 23.81% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required financial capability, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required financial capability. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required financial capability 'rarely' and 'never' .

In item No. 4 of table 4.1, 6 out of 21respondents or 28.57% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required equipment capability, 12 out of 21respondents or 57.14% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required equipment capability,3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required equipment capability. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required equipment capability 'most frequently' and 'never'.

Table 4.1.3.Summary of responses from the questionnaire respondents regarding particular construction project experience

5	Particular construction project experience	Frequency & percentage	5	4	3	2	1
5.1	Required number of Road Projects completed	f	19	1	1	0	0
		%	90.48	4.76	4.76	0.00	0.00
5.2	key production rates of earth work, sub-base, crushed stone, asphalt surfacing	f	4	16	0	1	0
		%	19.05	76.19	0.00	4.76	0.00

(Summary of questionnaire respondents' responses)

In item No. 5.1 of table 4.3, 19 out of 21respondents or 90.48% of all the respondents answered that most local DB contractors 'most frequently' fail to achieve the required number of Road Projects completed, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required number of Road Projects completed, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required number of Road Projects completed. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required number of Road Projects completed 'rarely' and 'never'.

In item No. 5.2 of table 4.3, 4 out of 21respondents or 19.05% of all the respondents answered that most local DB contractors 'most frequently' fail to achieve the required key production rates of earth work, sub-base, crushed stone, asphalt surfacing , 16 out of 21respondents or 76.19% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required key production rates of earth work, sub-base, crushed stone, asphalt surfacing , 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'rarely'. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required key production rates of earth work, sub-base, crushed stone, asphalt surfacing 'less frequently' and 'never' .

Table 4.1.4.Summary of responses from the questionnaire respondents regarding general construction project experience

6	General construction experience	Frequency & percentage	5	4	3	2	1
6.1	Time period in the Construction Business	f	0	4	10	3	4
		%	0.00	19.05	47.62	14.29	19.05
6.2	Required annual turnover	f	18	2	1	0	0
		%	85.71	9.52	4.76	0	0.00

(Summary of questionnaire respondents' responses)

In item No. 6.1 of table 4.4, 4 out of 21respondents or 19.05% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required Time period in the Construction Business , 10 out of 21respondents or 47.62% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required Time period in the Construction Business, 3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required Time period in the Construction Business. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required Time period in the Construction Business 'most frequently'.

In item No. 6.2 of table 4.4, 18 out of 21respondents or 85.71% of all the respondents answered that most local DB contractors 'most frequently' fail to achieve the required annual turnover for specified period of time, 2 out of 21respondents or 9.52% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required annual turnover, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required annual turnover, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required annual turnover for specified period of time. But, none of the respondents encountered the problem of local

DB contractors when they fail to achieve the required annual turnover for specified period of time criteria 'rarely' and ‘never'.

Table 4.1.5.Summary of responses from the questionnaire respondents regarding Litigation history, History of non-performing and Submission of envelops as per the requirement

No	Items	Frequency & percentage	5	4	3	2	1
7	Litigation history	f	0	0	4	14	3
		%	0.00	0.00	19.05	66.67	14.29
8	History of non-performing	f	0	0	3	17	1
		%	0.00	0.00	14.29	80.95	4.76
9	Submission of envelops as per the requirement	f	0	1	16	2	2
		%	0.00	4.76	76.19	9.52	9.52

(Summary of questionnaire respondents’ responses)

In item No. 7 of table 4.5, 4 out of 21respondents or 19.05% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required Litigation history, 14 out of 21respondents or66.67% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required Litigation history, 3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'never' fail to achieve the required Litigation history. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required Litigation history 'most frequently' and ‘frequently’.

In item No. 8 of table 4.5, 3 out of 21respondents or 14.29% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required History of non-performing, 17 out of 21respondents or 80.95% of all the respondents answered that most local DB contractors 'rarely' fail to achieve the required History of non-performing, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'never' fail to achieve the required History of non-performing.

But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required History of non-performing 'most frequently' and ‘frequently’.

In item No. 9 of table 4.5, 1 out of 21respondents or 4.76% of all the respondents answered that most local DB contractors 'frequently' fail to achieve the required Submission of envelops as per the requirement, 16 out of 21respondents or 76.19% of all the respondents answered that most local DB contractors 'less frequently' fail to achieve the required Submission of envelops as per the requirement, 2 out of 21respondents or 9.52% of all the respondents answered that most local DB contractors 'rarely' and 'never' fail to achieve the required Submission of envelops as per the requirement respectively. But, none of the respondents encountered the problem of local DB contractors when they fail to achieve the required History of non-performing 'most frequently'.

Regarding the possible measures to favor local DB contractors in bid without affecting the competitive nature and fairness of the evaluation process (if it were possible) the responses are rated as 5 for Best,4 for Better, 3 for Bad, 2 for Worse and 1 for Worst.

Table 4.1.6.Summary of responses from the questionnaire respondents regarding favoring the personal requirement for construction and design crew

No	Items	Frequency & percentage	5	4	3	2	1
1	Lowering(considering) the personnel requirement for local contractors	f	0	0	4	15	2
		%	0.00	0.00	19.05	71.43	9.52
2	Lowering(considering) the personnel requirement for local contractors	f	0	0	2	15	4
		%	0.00	0.00	9.52	71.43	19.05

(Summary of questionnaire respondents' responses)

In item No. 1 of table 4.6, 4 out of 21respondents or 19.05% of all the respondents answered that considering the personnel requirement for construction crew for local DB contractors is 'bad', 15 out of 21respondents or 71.43% of all the respondents answered that considering the personnel requirement for construction crew for local DB contractors is 'worse',2 out of 21respondents or 9.52% of all the respondents answered that considering the personnel requirement for construction crew for local DB contractors is 'worst'. But, none of the respondents appreciate the idea of considering the personnel requirement for construction crew for local DB contractors is 'best' and 'better'.

In item No. 2 of table 4.6, 2 out of 21respondents or 9.52% of all the respondents answered that considering the personnel requirement for design crew for local DB contractors is 'bad', 15 out of 21 respondents or 71.43% of all the respondents answered that considering the personnel requirement for design crew for local DB contractors is 'worse',4 out of 21 respondents or 19.05% of all the respondents answered that considering the personnel requirement for design crew for local DB contractors is 'worst'. But, none of the respondents appreciate the idea of considering the personnel requirement for design crew for local DB contractors is 'best' and 'better'.

Table 4.1.7.Summary of responses from the questionnaire respondents regarding favoring the financial capability and equipment capability

No	Items	Frequency & percentage	5	4	3	2	1
3	Assisting (considering) the in financial capability criteria	f	12	6	2	1	0
		%	57.14	28.57	9.52	4.76	0.00
4	Assisting(considering) the equipment capability	f	7	14	0	0	0
		%	28.57	66.67	0.00	0.00	0.00

(Summary of questionnaire respondents' responses)

In item No. 3 of table 4.7, 12 out of 21respondents or 57.14% of all the respondents answered that considering the financial capability criteria for local DB contractors is 'best', 6 out of 21respondents or 28.57% of all the respondents answered that considering the financial capability criteria for local DB contractors is 'better',2 out of 21respondents or 9.52% of all the respondents answered that considering the financial capability criteria for local DB contractors is 'bad', 1 out of 21respondents or 4.76% of all the respondents answered that considering the financial capability criteria for local DB contractors is 'worse'. 'But, none of the respondents appreciate the idea of considering the 2 out of 21respondents or 9.52% of all the respondents answered that considering the financial capability criteria for local DB contractors is 'worst'.

In item No. 4 of table 4.7, 7 out of 21respondents or 28.57% of all the respondents answered that considering the equipment capability criteria for local DB contractors is 'best', 14 out of 21respondents or 66.67% of all the respondents answered that considering the equipment capability criteria for local DB contractors is 'better'. But, none of the respondents appreciate the idea of considering the equipment capability criteria for local DB contractors are ‘worst, ‘worse’ and ‘bad'.

Table 4.1.8.Summary of responses from the questionnaire respondents regarding favoring the particular construction project experience

5	Assisting(considering) the particular construction project experience	Frequency & percentage	5	4	3	2	1
5.1	Assisting(considering) the required number of Road Projects completed	F	19	2	0	0	0
		%	90.48	9.52	0.00	0.00	0.00
5.2	Assisting(considering) the key production rates of earth work, sub-base, crushed stone, asphalt surfacing	F	14	6	1	0	0
		%	66.67	28.57	4.76	0.00	0.00

(Summary of questionnaire respondents’ responses)

In item No. 5.1 of table 4.8, 19 out of 21respondents or 90.48% of all the respondents answered that considering the required number of Road Projects completed criteria for local DB contractors is 'best', 2 out of 21respondents or9.52% of all the respondents answered that considering required number of Road Projects completed criteria for local DB contractors is 'better'. But, none of the respondents appreciate the idea of considering required number of Road Projects completed criteria for local DB contractors is 'worst, worse and bad'.

In item No. 5.2 of table 4.8, 14 out of 21respondents or 66.67% of all the respondents answered that considering the Assisting(considering) the key production rates of earth work, sub-base, crushed stone, asphalt surfacing criteria for local DB contractors is 'best', 6out of 21respondents or 28.57% of all the respondents answered that considering the key production rates of earth work, sub-base, crushed stone, asphalt surfacing criteria for local DB contractors is 'better',1 out of 21respondents or 4.76% of all the respondents answered that considering the key production rates of earth work, sub-base, crushed stone, asphalt surfacing criteria for local DB contractors is 'bad'. But, none of the respondents appreciate the idea of considering particular construction project experience criteria for local DB contractors is 'worst and worse'.

Table 4.1.9.Summary of responses from the questionnaire respondents regarding favoring the general construction project experience

6	Assisting(considering) the general construction experience	Frequency & percentage	5	4	3	2	1
6.1	Assisting(considering) time period in the Construction Business	f	8	12	1	0	0
		%	38.10	57.14	4.76	0.00	0.00
6.2	Assisting(considering) required annual turnover	f	16	4	1	0	0
		%	76.19	19.05	4.76	0.00	0.00

(Summary of questionnaire respondents' responses)

In item No. 6.1 of table 4.9, 8 out of 21respondents or 38.10% of all the respondents answered that considering the required time period in the Construction Business criteria for local DB contractors is 'best', 12 out of 21respondents or 57.14% of all the respondents answered that considering required time period in the Construction Business criteria for local DB contractors is 'better',1 out of 21respondents or 4.76% of all the respondents answered that considering required time period in the Construction Business criteria for local DB contractors is 'bad'. But, none of the respondents appreciate the idea of considering required number of Road Projects completed criteria for local DB contractors are 'worst and worse '.

In item No. 6.2 of table 4.9, 16 out of 21respondents or 76.19% of all the respondents answered that considering the required annual turnover criteria for local DB contractors is 'best', 4 out of 21respondents or 19.05% of all the respondents answered that considering required annual turnover criteria for local DB contractors is 'better',1 out of 21respondents or 4.76% of all the respondents answered that considering required time period in the Construction Business criteria for local DB contractors is 'bad'. But, none of the respondents appreciate the idea of considering required annual turnover criteria for local DB contractors are ‘worst and worse '.

Table 4.1.10.Summary of responses from the questionnaire respondents regarding favoring the litigation history, history of non-performing and submission of envelops as per the requirement

No	Items	Frequency & percentage	5	4	3	2	1
7	Assisting(considering) the litigation history	f	0	0	4	14	3
		%	0.00	0.00	19.05	66.67	14.29
8	Assisting(considering) the history of non-performing	f	0	0	2	17	2
		%	0.00	0.00	9.52	80.95	9.52
9	Assisting(considering) the	f	0	0	16	1	2

	submission of envelops as per the requirement	%	0.00	0.00	76.19	4.76	19.05

(Summary of questionnaire respondents' responses)

In item No. 7 of table 4.10, 4 out of 21respondents or 19.05% of all the respondents answered that considering the required the litigation history criteria for local DB contractors is 'bad', 14 out of 21respondents or 66.67% of all the respondents answered that considering required the litigation history criteria for local DB contractors is 'worse',3 out of 21respondents or 14.29% of all the respondents answered that considering required the litigation history criteria for local DB contractors is 'worst'. But, none of the respondents appreciate the idea of considering required the litigation history criteria for local DB contractors is ' better and best'.

In item No. 8 of table 4.10, 2 out of 21respondents or 9.52% of all the respondents answered that considering the history of non-performing criteria for local DB contractors is 'bad', 17 out of 21respondents or 80.95% of all the respondents answered that considering the required the history of non-performing criteria for local DB contractors is 'worse',2 out of 21respondents or 9.52% of all the respondents answered that considering the required the history of non-performing criteria for local DB contractors is 'worst'. But, none of the respondents appreciate the idea of considering the required the history of non-performing criteria for local DB contractors is ' better and best'.

In item No. 9 of table 4.10, 16 out of 21respondents or 76.19% of all the respondents answered that considering the submission of envelops as per the requirement criteria for local DB contractors is 'bad', 1 out of 21respondents or 4.76% of all the respondents answered that considering the submission of envelops as per the requirement criteria for local DB contractors is 'worse',4 out of 21respondents or 19.05% of all the respondents answered that considering the submission of envelops as per the requirement criteria for local DB contractors is 'worst'. But, none of the respondents appreciate the idea of considering the submission of envelops as per the requirement criteria for local DB contractors is ' better and best'.

4.1.2. Analysis Results of Open End Questions and Interview

In addition to the close ended question the respondents were provided with the open ended questions. Thus, the responses to the open ended questions and the interview are presented below

Regarding the first question which was about the relevant criteria that local DB contractors fail to achieve most, the responses to the open ended question 'you can add if there are other more criteria, related to the personal requirements for design and construction crew two of the respondents tried to add that there is a gap that some contractors tends to mischief that they present CVs of professionals which are not actually working in their organizations. But, as the head of the team stated in the interview, the risk of non- performing of the work is too much and a company with the more experienced and knowledgeable personnel will achieve better profit and performs the task within the stipulated time.

Responses to the relevant criteria that local DB contractors fail to achieve most, the responses to the open ended question 'you can add if there are other more criteria, related to the financial and equipment capability requirement: one of the respondent stated that the issue related to equipment is most of the experienced companies satisfies it. But, new comers to the business try to achieve the requirement by using leasing and renting options too. One of the respondents believes that due to the good working relation with the bank and insurance managers and the gap the system has, some contractors tends to value their properties beyond the actual market value just for the sake of the bidding document fulfillment.

Regarding the relevant criteria that local DB contractors fail to achieve most, the responses to the open ended question 'you can add if there are other more criteria, related to the particular and general construction project experience, the head of the team in the interview stated that most of the new comers to the business fail to achieve this criteria and unlike the building sector the major client of works related to road construction in only one organization; Ethiopian roads authority. Thus, there is no room for cheating by bringing falsified road project experience.

Regarding the relevant criteria that local DB contractors fail to achieve most, the responses to the open ended question 'you can add if there are other more criteria, related to the history of litigation and non-performing and submission of bids, the head of the team in the interview stated that, unless there are minor deviations most of the bidders achieves it. But, sometimes due to the fact that only limited number of reputable road contractors their past performances and litigation and non-performing histories are well known with the corresponding project they have encountered the problem.

In the second question which was about the possible measures to favor local DB contractors in bid without affecting the competitive nature and fairness of the evaluation process (in consideration of personnel requirement criteria for design and construction crew), three of the respondents and the team leader in the interview responded that, considering the construction and design crew for local DB contractors would jeopardizes the project in many ways. It would bring bad design and the construction also would be unsatisfactory in quality and durability aspects. In addition to that the contractor will lose money in correction works and reworks because the original work is unpleasant to the supervisors and counterpart engineers.

In the other sub-question of the second question which was about the possible measures to favor local DB contractors in bid without affecting the competitive nature and fairness of the evaluation process (in consideration of general and particular project completed experience), the interview response shows that the experience is a must criteria that the evaluators has no control of but due to some market conditions the directive was amended by the ministry of finance and economic development. For instance the lower limit to international competitive bidding announcement has been changed. As two of the respondents of the questionnaire stated if consideration is an option to favor local DB contractors they believe considering the general and particular construction experience would be less problematic as compared to considering other computing criteria.

In the other sub-question of the second question which was about the possible measures to favor local DB contractors in bid without affecting the competitive nature and fairness of the evaluation process (in consideration of the litigation history, history of non performing and submission of bid envelops), the interview response and a few of the

questionnaire's response shows that there should not be consideration specially in the case of non performing and litigation history because of the seriousness of the consequences.

In the third question which was about the articles/phrases in the procurement directive/proclamations/conditions of contract in favor of local DB contractors that the department implements in evaluation process, the former and latest amended directives and proclamations were received from the interview as a supporting documents to the day today working guidelines of the department, next to that on the final question of the questionnaire which was aimed at checking the presence of articles/phrases not included in the procurement directive/proclamations/conditions of contract in favor of local DB contractors that the department implements in evaluation process, all the respondents answered that there are no such considerations besides the directives as it causes the subjective evaluation which would again affect the commutative nature of the process.

4.2. DISCUSSIONS

4.2.1. Discussion Based on Primary Data

According to the survey through dispatched questionnaires, the major criteria that local DB bidders fail to achieve most in their technical bid documents and most of the respondents encountered those problems most frequently and frequently. In addition to that, if it were possible, the respondents also forwarded the possible considerations that would favor local DB firms are illustrated in the pie charts below. The major criteria failed to be achieved most frequently and frequently by the majority of respondents are,

- ✓ Lack of financial capability

- ✓ Lack of a particular construction project experience which is required number, value and complexity and similar nature of project completed before
- ✓ Lack of required amount of annual turnover

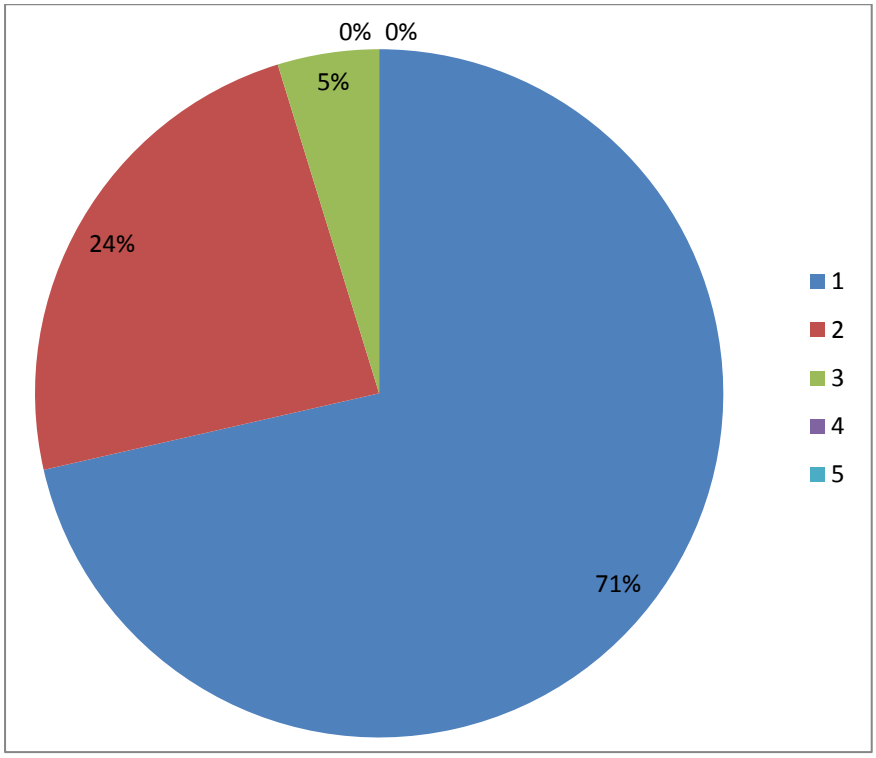

Figure 4.2.1. Pie graph of percentage of respondents with responses about the lack of financial capability of local DB contractors in technical bid evaluation

As shown in the pie chart of the respondents numbers, almost all of the directorate's bid evaluators encountered the problem of local DB contractors when they fail to achieve the specified amount of liquid asset or credit line during bid evaluation practices most frequently and frequently.

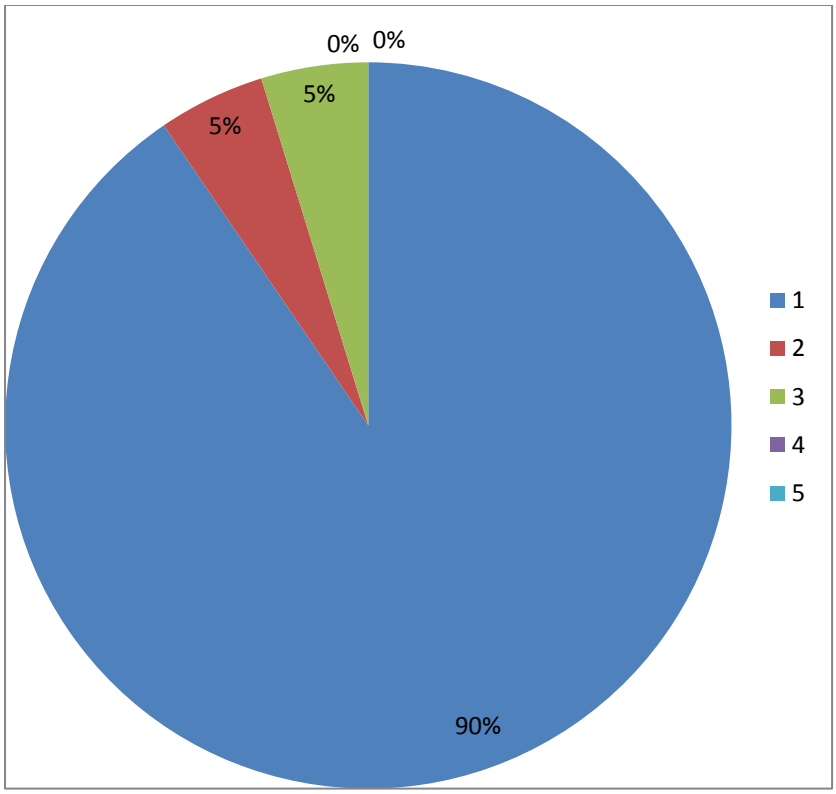

Figure 4.2.2. Pie graph of percentage of respondents with responses about the lack of particular value, number and complexity and similarity of projects completion experience of local DB contractors in technical bid evaluation

As shown in the pie chart of the respondents numbers, almost all of the departments' bid evaluators (about 90%) encountered the problem of local DB contractors when they fail to achieve the specified value and number of projects performed which have similar complexity and nature in the prior times to the current anticipated project during bid evaluation practices most frequently.

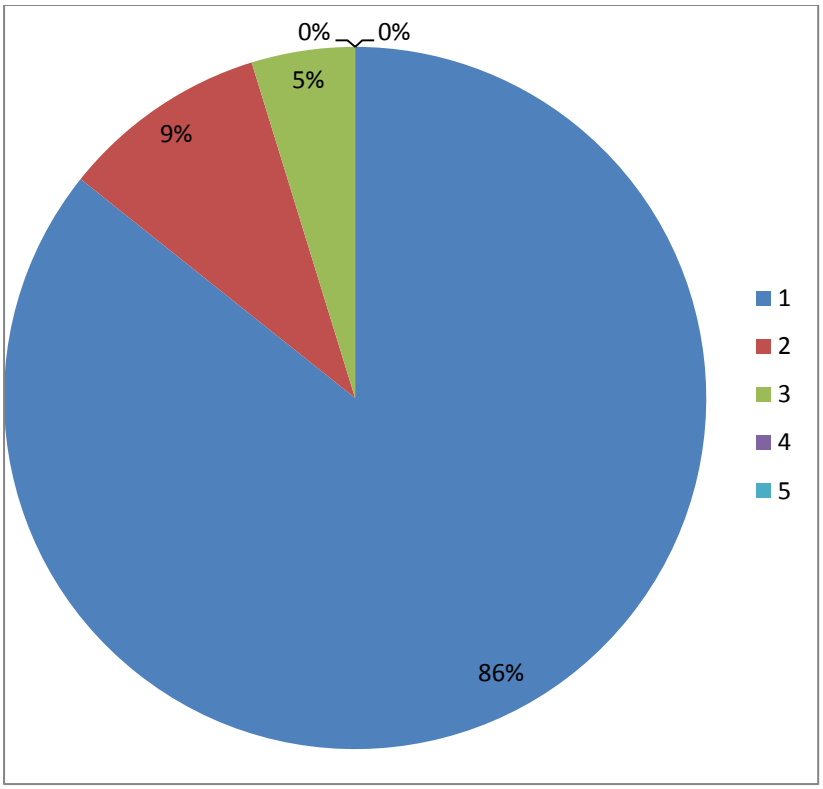

Figure 4.2.3. Pie graph of percentage of respondents with responses about the lack of specified amount of annual turnover of local DB contractors in technical bid evaluation

As shown in the pie chart of the respondents' numbers, almost all of the departments' bid evaluators (about 86% without the 9% which responded frequently) encountered the problem of local DB contractors that they fail to achieve the specified amount of annual turnover for the specified period of time.

The second question was about the criteria to be considered in the minimum requirements weather to favor or not while maintaining the quality of the anticipated service and work, competitive nature of the bid and project performance. But, the respondents mentioned their concern in relation to the above pillars which are not for compromise and the question was also probabilistic in nature and aimed at just seeking for qualitative data. Thus, the response is not to be analyzed and illustrated like the above parameters.

4.2.2. Discussion Based on Secondary Data

In all projects which the department classified in cost ranges, the competition is limited to only a few numbers of bidders. Local capacity building through systematic ways which would not affect the fair competition of the procurement process is the key factor for the good functioning of the sector.

Table 4.2.1.Competition and balance of projects and bidders

Cost Category of Projects (billions)	**Number of ERA Projects in this range**	**Qualified Local Contractors**	**Project Distribution**	**PUBLIC PROCUREMENT AND PROPERTY ADMINISTRATIVE AGENCY,PUBLIC PROCUREMENT MANUAL Criteria**	
				Contractors Distribution	**Competition and balance of Project and bidders**
From 2 - 1.4	13	10	Low	Low	low competition and the balance is almost one to one
From 1.4-0.80	27	17	Higher	Medium	low competition and the projects are more than contractors # (high offer)
From 0.80 - 0.20	22*	37	Medium	Low	Low competition because contractors' interest with some exception of low bid
Remaining Contractors		18			not qualified for any project

(Ethiopian Roads Authority procurement department tender strategy for EFY 2009, (ERA[26])).

4.2.3. Discussion Based on Supporting Documents

Regarding directives which tend to favor local DB contractors, the responses of the interview and support documents (which are used as evidential data and attached in the appendix) received are presented below. The supporting documents are those the Ministry of Finance and Economic Cooperation has amended on the original directive trough different times. Among those amendments hereafter stated are basic ones related to favoring local DB bidders. The amendments which became operational as of December 2015 and December 2016 are presented below respectively.

Some articles of the amendment which became operational on December 11th 2015 are translated as,

- ✓ Article 17.2

  Other conditions stayed unchanged whereas international competitive bidding will be held when financial values are greater than the following for respective items.

  For Works----above Birr Hundred and fifty million (150,000,000.0)

  For goods----above Birr Fifty million (50,000,000.0)

  For Consulting----above Birr Seven million and five hundred thousand (7,500.0)

  For other Services----above Birr Twenty one million (21,000,000.0)

- ✓ Regarding General Experience

  A) For local contractors except those which are from class Six to Class Ten (competency classes issued by the Ministry), a company must have stayed in the business as a Sub-contractor or as a Joint Venture for at least for two years.

  B) Whereas a foreign Contractor must have stayed in the business as a Sub-contractor or as a Joint Venture for at least for Five years.

- ✓ Regarding Related Experience

  A) For local contractors they must have completed successfully at least 70% of the whole project work similar in nature to the anticipated project which can be as a Sub-contractor or as a Joint Venture during the past ten years.

  B) But for works with cost less than One Billion (1,000,000,000.0),if local companies could not achieve that stated above in one project, two projects summed to one which each one must satisfy more than half could be taken.

  C) For works with cost greater than One Billion (1,000,000,000.0),if local companies could not achieve that stated above in one project, three projects summed to one which each one must satisfy more than one third could be taken.

  D) Foreign contractors, they must have completed successfully at least 80% of the whole of two projects similar in nature to the anticipated project which can be as a Sub-contractor or as a Joint Venture during the past ten years.

E) For foreign contractor, if the work he performed is as a sub-contractor or as a Joint venture, the worked amount to be considered is only proportional to its share in the venture.

F) The similarity of the experience with the anticipated work is evaluated specially in building considering its height, in road considering its length and type, in bridge considering its length. But for local companies the requirement is only the experience one step down to the anticipated work.

- ✓ Regarding Annual Turnover Amount

A) The annual turnover for bid evaluation of local contractor would be chosen the maximum one in the past five years.

B) The annual turnover for bid evaluation of foreign contractor would be chosen the average one in the past five years and it will be doubled.

- ✓ Minimum Criteria Requirement for the Construction of Bridge

For Local Contractor

1) Local Contractor with building construction experience is acceptable for competing for construction of Short Length Bridge (With span up to twenty five meter)
2) Local Contractor with construction experience of Short Length Bridges acceptable for competing for construction of Middle Length Bridge (With span from Twenty five up to Fifty meters)
3) Local Contractor with construction experienceof Middle Length Bridge is acceptable for competing for construction of Long Bridge (With span greater than Fifty meter)

For Foreign Contractor

1) Foreign contractor who compete must have experience not less than the construction experience of anticipated length bridge.
2) In addition to the above one, the procuring office may put criteria stating the particular type of bridge.

- ✓ Minimum Criteria Requirement for the Construction of Road

For Local Contractor

A) A local company computing for the construction of a road is acceptable if it has an experience of one step lesser than the anticipated road.
   1) An experience gained in construction of new gravel road or existing road upgrading may be acceptable for computing for Asphalt surfacing.
   2) Any asphalt construction work like that of airfield construction experience will be acceptable for computing for Asphalt concrete projects

For Foreign Contractor

A) A foreign company computing for the construction of road must have experience not less than that of the anticipated work. And the financial amount should not be less than the anticipated project cost.

✓ Minimum Criteria Requirement for the Construction of Road

Another measure which favors local contractors was included in the amendment which became operational on December 06th 2016. Which are translated as-

A) A local company computing for the construction of a road is acceptable if it has an experience of two steps lesser than the anticipated road if the estimated project cost is less than Birr Four hundred million (400,000,000.0)

In addition to all above, Domestic bidder, for the purpose of further evaluation and comparison of bids only an amount equal to seven and half percent (7.5%) of the evaluated bid price determined in accordance with other provisions which is called marginal preference to local bidders.

CHAPTER V

CONCLUSSIONSAND RECOMMENDATIONS

Based on the analysis done on the collected primary and secondary data collected through mixed method research design, the following conclusions and recommendations are drawn respectively.

CONCLUSIONS

- ✓ Favoring local contractors systematically or in a way that do not affect the market computation and project performance seems one of the possible options for the public body that is in charge of the procurement directives and proclamations under practice so that local companies build their capacity.
- ✓ Public bodies other than EEPCO and ERA have not taken enough advantage of DB delivery system. Among some of the problems which hindered the application of DB, are the unfamiliarity of its applications and basis among the public body and private clients and the lack of special mandate required to procure their works through DB. As well the existing proclamations and directives are well suited for the traditional Design Bid Build project delivery system.
- ✓ The awarding criterion used in the country for DB projects is majorly based on the quotation of least responsive bidder other than competing based on the value of the work too.

- ✓ Local private companies as well as the public body did not take advantage of its very nature of DB project delivery system. DB is not well understood and

practiced in Ethiopia as compared with the level of its application in Western nations. Due to unfamiliarity for the application of DB, there is need for the guideline of practice regarding organizing and competence assurance and procurement practices of DB contractors.

- ✓ Among the generally accepted advantages of the delivery system, its suitability for fast-tracking, earlier cost estimation, sharing of risks are the basic ones. But, besides the numerous advantages the delivery system presented, project owners (or agents) should consider the draw backs to. In the case of projects specially which require detail studies like that of power supply and road projects outsourcing the design work in addition to the construction to local DB firms will help the public body to share the burden and on the way creates job opportunity for the private sector.
- ✓ There are lots of tasks required from the government and its agents regarding creating favorable working environment for local DB firms. Especially the government has the lions share to create favorable business environment for local DB contractors in the public projects through its procurement directives, procurement proclamations and procurement procedures. In addition to that, there are lots of tasks required for the success of the DB projects in between the contracting parties as well as the parties themselves.
- ✓ The creation of local capacity must be accompanied by favoring local companies in a way that does not hinder the competitive nature of the bids. Thus, according to the analysis of primary and secondary data well, favoring local DB firms in the financial capability criteria, in the particular project experience (amount, number and similarity in complexity) and required amount of turnover over the specified number of yearsareamongstthe few crucial local DB contractors favoring measures as those criteria are also 'must meet' criteria and cause for the 'knockout' of local DB bidders.
- ✓ The western experience has shown tremendous shift of the project clients and contractors choice to the DB basis project delivery. But, it is up to the project owner to evaluate the merits and demerits corresponding to the nature of the anticipated projects as the variables associated with the procurement system are

different from those in the traditional system. Thus, the following are the possible problems in the inception, design and construction phases correspondingly. The possible problems at the project inception phase are many of private project owners lack sufficient knowledge to prepare detailed scope of the work and hiring a consultant may add additional cost. The possible problems at the design phase originate from the unfamiliarity of the system among the contractors. They have not the adequate skill and will not satisfy the owner's scope. Problems associated with the construction activities are mainly due to the lack of adequate skill and capacity. Thus, the project performance is affected by delay and rework.

- ✓ The best practice guides of United States of America in the processes of procuring, contracting and execution of DB projects is adopted as it is written to be universal in applicability and they are important enough to directly affect project performance. Thus, they are adopted as a guideline with due care to our countries construction sectors' nature.

RECOMMENDATIONS

- ✓ Additional comprehensive researches are recommended so that the public body and private clients as well contractors would share the benefit of the delivery system.
- ✓ According to the studies and common practices, the suitability for fast-tracking, earlier cost estimation, sharing of risks are such advantages that serves the urgent demand of the developing countries as ours. Thus, project clients have to consider its suitability versus its drawbacks in accordance with the specific nature of their projects as choosing criteria among other delivery systems.

- ✓ Since the government has the power and responsibility to create favorable business environment for local DB contractors in the public projects it has to consider favoring mechanisms which does not affect the competition in the market by favoring them in the financial capability criteria, in the particular project experience and required amount of turnover over the specified number of years.
- ✓ The project owner has the responsibility of evaluating the pros and cons of the specific project delivery system with the anticipated project. The possible measures to alleviate the problems at the inception phase are, if the owner is incapable, he/she is obliged to hire a consultant/project manager for the sake of fulfilling the concept design, supervision of the overall work and procurement and evaluation procedures in the inception, design and construction phases respectively. The measure to alleviate problems at project design and construction phase are the client have to check the competence and experience and control changes and quality of work through the engineer he/she has hired.
- ✓ The best practice guides of other nations where the DB project delivery has advanced. But, have to be studied and evaluated thoroughly before using the guidelines recommended by them as the guide lines adopted in the research are only for the sake of introducing the system.
- ✓ Among the public bodies which are undertaking their projects on DB basis, ERA has technical staff to fulfill its duty and responsibility as a client of major projects. In addition it buys the consulting service through national and international competitive bidding whenever the scope of the new projects changes. Thus, other public bodies as Federal and Regional health bureaus, Education bureaus, Regional road authorities, housing development agencies, water and sewerage authorities, municipalities, justice affairs bureaus and other institutions with similar trend of tasks as ERA with repetitive projects, shall consider DB project delivery for their respective projects as an option to the traditional DBB.

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APPENDICES

Appendix -I Sample DB Road Project Invitation forBid(Volume I)

Section I: NOTICE OF INVITATION FOR BID

1. The Government of the Federal Democratic Republic of Ethiopia has allocated sufficient budget towards the cost of **Werabe – Bojeber Design and Build road project** and intends to apply part of the proceeds to eligible payments for the construction works.

The project area is located in the south west of Addis Ababa within the moist to humid climatic zone with 'Dega' and 'Woinadega' climate group. Approximately half of the road corridor has 'Woinadega' (temperate) and the remaining half project section has 'Dega' (cool) climate. The works under this contract consists of new road Construction of around 38.5 km Road to DC-5 standard.

The project involves selection of routes, designing and constructing of the road with design class of DC-5 Double Bituminous Surface Treatment (DBST) Standard. The work includes demolishing and removal of substandard structures, and construction of new culverts and Bridges if required.

The Works for this project includes design and construction of a new road. The road will have a carriageway width of 7m (two equal lanes of DBST each 3.5m width) and gravel shoulder on each side (1.5m shoulder width on flat and rolling terrains and 0.5m shoulder width on mountainous and escarpment terrain types).

The intended project completion period is 1095 calendar days (including mobilization period).

2. The Ethiopian Roads Authority now invites bidders to submit sealed bids for providing the necessary labor, material and equipment for the design and construction of this road project.

3. Interested bidders shall submit the following evidence;

a. In the case of Ethiopian bidders, Certificate of Registration from Ministry of Works and Urban Development with Category GC-1 or RC-1 renewed for 2007 EFY. and other appropriate documentary evidences demonstrating the bidder's compliance, which shall include:-

i. Trading License renewed for 2007 EFY; and

ii. Tax Clearance Certificate, which states that the bidder can participate in any public tender, valid at bidding date and VAT Registration Certificate.

iii. Registration as supplier in the list of the mandated public body, i.e. public Procurement and Property Agency (PPUBLIC PROCUREMENT AND PROPERTY ADMINISTRATIVE AGENCY,PUBLIC PROCUREMENT MANUALA) website, www.Public Procurement and property Administrative Agency,Public procurement manual.gov.et

b. In case of bidders other than Ethiopians; business organization registration certificate or Trade License issued by the country of establishment.

4. Bidding will be conducted through the National Competitive Bidding (NCB) procedures and is open to all eligible bidders as specified and defined in the Bidding Document. If a bidder was awarded any works/maintenance contract/s by ERA since **[insert date]** inclusive, the qualification criteria for the construction Turnover and key activities will be the aggregate of the criteria of the subject project and criteria for the awarded contract/s. A detailed qualification criterion is stated in the bidding document.

5. Interested eligible bidders may obtain further information from and inspect the bidding documents at the address given below from 8:30 a.m. to 12:30 p.m. and 1:30 to 5:30 p.m. from Monday to Thursday and 8:30 to 11:30 a.m. and 1:30 p.m. to 5:30 p.m. on Friday. A complete set of bidding document prepared in English language may be purchased by interested bidders on the submission of a written application to

the address below and upon payment of a nonrefundable fee of Birr 750.00 effective as of ***[insert the date].***The method of payment shall be in cash or direct deposit to ERA's account number **Commercial Bank of Ethiopia-Sengatera Branch, Account No.01715-33144600.**

Ethiopian Roads Authority

Engineering Procurement Directorate,

2nd Floor, Room No. to 207,

Tel: +251 11 551 50 02

6. Bidders shall submit two envelopes, "Qualification information & Bid Security" in one envelope and "Financial Bid" separately in another envelope and should be sealed in an outer envelope. One original and four copies of the bids have to be submitted.
7. Evaluation is to be carried out in two stages, Qualification information first and Financial Bids of qualified bidders next.
8. Bids must be delivered to the address below on or before [***insert the date*].**at 2:30 p.m. All bids must be accompanied by a bid security of Birr 500,000 (Birr Five Hundred thousand). Late bids will be rejected. Qualification information and Bid security of the bidders will be opened in the presence of bidders' representatives who chose to attend at ERA's Conference Room 4th floor, on the final date and time of bid submission as stated above.

Director General

Ethiopian Roads Authority,

RasAbebeAregay Street

P. O. Box 1770

Addis Ababa, Ethiopia

Tel. +251-11-515 66 03

Fax. +251-11-5514866

9. The Ethiopian Roads Authority reserves the right to accept or reject any or all bids.

ETHIOPIAN ROADS AUTHORITY

Appendix -II Sample DB Road Project General Conditions of Contract(Volume I)Section IV:

Employer: Ethiopian Roads Authority

Name of Contract:Werabe– Bojeber Design and Build road project

CONDITIONS OF CONTRACT

PART I: GENERAL CONDITIONS of CONTRACT

The Conditions of Contract, Part I: General Conditions shall be those forming Part I of the "**Conditions of Contract for Design- Build and Turnkey,**" first edition 1995, prepared by the ***FédérationInternationale des Ingénieurs-Conseils*** **(FIDIC)**. These Conditions are subject to the variations and additions set out in Part II hereof entitled "Conditions of Particular Application."

Copies of the FIDIC Conditions of Contract can be obtained from:
FIDIC Secretariat
P.O. Box 86
1000 Lausanne 12
Switzerland
Facsimile: 41 21 653 5432
Telephone: 41 21 653 5003

Appendix -III Sample DB Road Project Employer's Requirement

(Volume II)

Section VI- Employer’s Requirement

Scope of the service

The Contractor shall not rely on the physical description contained in this Section to identify all Project components. The Contractor shall determine the full scope of the Project through examination of the contract and the Project Site, or as may be reasonably inferred from such examination.

The project will comprise:

- Alternatives Route Assessment and Route Selection
- Designing and constructing of the roadway and any necessary structures.
- Upgrading the existing as well as designing and constructing new alignment (if there is any) section of the route to DC 5, DBST standard as per the final contract agreement.
- Designing and Constructing Bridges and culverts or upgrading existing structures (if there exists) to meet the required standard.
- Designing and Constructing Paved Roadways.
- Designing and Constructing Retaining Walls
- Pavement Markings and Erecting Traffic Signs.

- And other necessary works to meet the Employer's requirement

Items of work

The work shall consist of Alternatives Route Assessment and Route Selection, furnishing all design plans, documentation, equipment, materials, labor and incidentals necessary to successfully complete the project in compliance with the contract provisions. The Contractor for this project shall perform, as minimum, the primary item of work listed below. This list is not all-inclusive and the Contractor shall be responsible for identifying all items of work and executing them according to the design and specifications to meet the employer's requirement.

Design work Items

- Route selection
- Topographic Survey
- Geotechnical investigation
- Geometric and Pavement design
- Bridge Design
- Culvert Design
- Retaining wall design
- Permanent Signing
- Pavement Marking
- Quality management program of implementation
- Design Document
- Record drawings of As Built plans

Construction work Items

- Construction of the roadway to DC5 standard,
- Demolish and removal of substandard structures Fords and Vented Causeways if any
- Demolish and removal all culverts constructed before 50 years (even though some of which are hydraulically sufficient and seem to be in

good structural condition. The Contractor shall design and construct appropriate structures in place of those which would be demolished.

- Constructing Bridges and culverts
- providing wing wall for most of the existing bridges
- Clearing and maintaining the existing structures and improving its flow direction
- Constructing DBST for the traffic given in the Employer's Requirement.
- Constructing Retaining Walls.
- Pavement Markings and Erecting Traffic Signs
- Other ancillary works

Standards and Design References

The design and construction work shall be performed in accordance with the following standards, specification or Reference Documents. If a specific standard, specification or Reference document is not listed herein, the Employer's Representative shall identify the pertinent standard, specification or Reference Document to the Contractor. The Contractor must meet the minimum roadway standards & criteria. Minimum design standards of criteria can only be utilized upon approval of the Employer's Representative.

- Route Selection Manual (2013)
- Geometric Design Manual (2013)
- Geotechnical Design Manual (2013)
- Pavement Rehabilitation and Asphalt Overlay Design Manual (2013)
- Flexible Pavement Design Manual (2013)
- Site Investigation Manual (2013)
- Drainage Design Manual (2013)
- Bridge Design Manual Part 1(2013)
- Bridge Design Manual Part 2(2013)
- Bridge Design Manual Part 3 (2013)
- Ethiopia - Best Practice Manual for Thin Bituminous Surfacing (2013)

- ERA Standard Drawing (2002)
- ERA Standard Technical Specification (2014)
- ERA. Environmental Management System Manual (two volumes), 2013

Where the aforesaid codes, standards and specifications are silent on any aspect, the following standards in order of preference shall be adopted, unless otherwise directed by ERA/Employer's Representative:

(a) American Association of State Highway and Transport Officials (AASHTO).
(b) American Society of Testing Materials (ASTM).
(c) British Standards (BS)
(d) Any other standard proposed by the Contractor and approved by ERA

Project Conceptual Designs

The Design-Builder shall develop the Project design so as to meet all the requirements of the Contract Documents. The Employer has proposed the preliminary concept design prepared by the design Consultant (CORE Engineering PLC) as scope/**conceptual design** and the same is recommended only to a limited level. If the Design-Builder adopts the Conceptual Design as the basis from which it will design the Project, the Design-Builder is responsible for:

- Ensuring that the resulting design meets the requirements of the Contract Documents.
- Assuming responsibility for any Project requirements arising from using the Conceptual Designs as the basis of the Project design and construction.

Appendix -IV Sample DB Road Project Post Qualification(Volume III)

SECTION I

GENERAL INSTRUCTIONS TO APPLICANTS (GITA)

General	
Scope of Application	1.1 In connection with the Invitation for Post qualification indicated in Section II, Particular Instruction to Applicants (PITA), the Employer, as defined in the PITA, issues this Post qualification Document (PD) to applicants interested in bidding for the works described in Section II PITA, 1.1 Scope of Works. The name and identification of the contract, and the National Competitive Bidding (NCB) number corresponding to this Post qualification, are provided in the PITA.
Source of Funds	1.2 The Financer indicated in the PITA has allocated sufficient Fund towards the Cost of the Project named under clause 1.1 above and intends to apply a portion of the funds to eligible payments under the contract(s) resulting from the bidding for which this Post-qualification is conducted.
Type of Contract	1.3 The bidding Documents, Type of Contract, and method of payment, whether price is fixed or adjustable, and the time for completion are indicated in the PITA.
Qualification Criteria	
General	Post qualification will be based on Applicants meeting all the criteria regarding their General and Particular Construction Experience, Financial Position, Personnel and Equipment Capabilities and other relevant information as demonstrated by the Applicant's Responses in information Forms attached to the Letter of Application. Additional requirements for the Joint Ventures are given in Section III. The Qualifications, Capacity and resources of proposed Subcontractors will not be taken into account in assessing those of individual or Joint Venture applicants, unless they are named specialist Contractors pursuant to Sub-clause 2.4.
Nominated Subcontractors	If so listed in the PITA, the Employer intends to execute certain specialized elements of the works by Nominated Sub-contractors in accordance with the GCOC of the bidding documents.

Subcontracting	If an Applicant intends to subcontract parts of the works such that the total of subcontracting is more than the percentage stated in the PITA of the Applicant's approximated Bid Price, that intention shall be stated in the Letter of Application, together with a tentative listing of the elements of the works to be subcontracted.If the applicant intends to sub-contract any highly specialized works to specialist subcontractors, such elements and the proposed Subcontractors shall be identified, and the experience and capacity of Subcontractors shall be described in the relevant Information Forms. With reference to sub-clauses 2.3 and 2.4, the Employer may require Applicants to provide more information about their proposals. If any proposed Subcontractor is found ineligible or unsuitable to carry out an assigned task the Employer may request the applicant to propose an acceptable substitute and may conditionally post-qualify the Applicants accordingly.
Contractor's Responsibilities	After award of contract, the subcontracting of any part of the works other than for the provision of labor and materials or to Subcontractors named in the contract shall require the prior consent of the Employer. Notwithstanding such consent, the Contractor shall remain responsible for the acts, defaults, and neglects of all Subcontractors during contract implementation.
General Construction Experience	The applicant shall provide evidence that, a. it has been actively engaged in the civil works construction business for at least the period stated in the PITA immediately prior to the date of submission of applications, in the role of the prime contractor, management contractor, partner in a joint venture, or subcontractor, b. The Applicant has generated an average annual construction turnover of during the period greater than the amount stated in the PITA, and c. The average annual turnover is defined as the total of certified payment certificates for works in progress or completed by the firm comprising the Applicant, divided by the Number of Years stated in PITA.

Particular Experience	The applicant shall provide evidence that, 1.2.1.1 It has successfully completed or substantially completed at least the number of contracts stated in the PITA, within the period stated in the PITA. The works may have executed by the Applicant as a prime contractor, management contractor, member of a joint venture, or subcontractor, with references being submitted to confirm satisfactory performance, and 1.2.1.2 The Applicant shall also provide evidence that it has achieved the minimum monthly and/or annual production rates of the key construction activities described in the PITA under similar contract conditions.
Financial Capabilities	The Applicant shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assess, line of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements for the subject contract(s) in the event of stoPublic Procurement and property Administrative Agency,Public procurement manualge, start-up, or other delays in payment, of the minimum estimated amount stated in PITA, net of the Applicant's commitments for other contracts. In the relevant Information Form, the Applicant shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. The audited balance sheets or, other financial statements acceptable to the employer, for the last five years (unless otherwise stated in the PITA) shall be submitted and must demonstrate the current soundness of the Applicant's financial position and indicate its prospective long-term profitability. If deemed necessary, the employer shall have the authority to make inquiries with the Applicant's bankers. .
Personnel Capabilities	The Applicant shall supply general information on the management structure of firm, and shall make provision for suitably qualified personnel to

	key positions listed in PITA, as required in contract implementation.

Equipment Capabilities	The Applicant shall own, or have assured access (through hire, lease purchase agreement, other commercial means, or approved sub-contracting) to key items of equipment, in full working order, as listed in the PITA, and must demonstrate that, based on known commitments, they will be available for timely use in the proposed contract. The Applicant may also list alternative types of equipment that it would propose for use on the contract, together with an explanation of the proposal.
Litigation History	The Applicant shall provide accurate information on the related Application Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Applicant or any partner of a joint venture may result in failure of the application.
Joint Ventures	
Eligibility	3.1 If the Applicant comprises a number of firms combining their resources in a joint venture, the legal entity constituting the joint venture and the individual partners in the joint venture shall be registered in eligible source countries and shall otherwise meet the requirements of Clause 2 above.
Clarification of Applications	3.2 The joint venture must satisfy collectively the criteria of Clause 2. For this purpose the following data of each member of the joint venture may be added together to meet the collective qualifying criteria: (a) Average annual turnover (Sub-Clause 2.7[b]); (b) Particular experience (Sub-Clause 2.8[a]) and key production rates (Sub-Clause 2.8 [b]); (c) Construction cash flow (Sub-Clause 2.9); (d) Personnel capabilities (Sub-Clause 2.12); and (e) Equipment capabilities (Sub-Clause 2.13).

	Each partner must satisfy the following criteria individually; (f) General construction experience for the period of years stated in Sub-Clause 2.7(a), (g) Adequate sources to meet financial commitments on other contracts (Sub-Clause 2.10), (h) Financial Soundness (Sub-clause 2.11) and, (i) Litigation History (Sub- clause 2.14). (j) As a lead firm it must fulfill 50% of the qualifying criteria given under Sub-clauses 2.7 (b), 2.8 (a) & (b) and 2.9. (k) Other partners of the joint ventures, it must fulfill 25% of the qualifying criteria given under Sub-clauses 2.7 (b), 2.8 (a) & (b) and 2.9. In accordance with the above, the application shall include all related information required under Clause 2 for individual partners in the Joint Venture.

Partner in charge	3.3 One of the partners, who is responsible for performing a key function in contract management or is executing a major component of the proposed contract, shall be nominated as being in charge during the post qualification and bidding periods and, in the event of a successful bid, during contract execution. The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
Partner Limitation	3.4 Unless otherwise stated in the PITA, there shall be no limit on the number of partners in JV' however, the attention of Applicants is drawn to the provisions of Sub-clause 3.5.
Joint and Several Liability	3.5 All partners of the joint venture shall be legally liable, jointly and severally, during the bidding process and for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under Sub-clause 3.3 above. 3.6 A copy of the joint venture Agreement (JVA) entered into by the partners shall be submitted with the Application. Alternatively, a Letter of Intent to execute a JVA in the event of a successful bid shall be signed by all partners and submitted with the Application together with a Copy of the proposed Agreement. Pursuant to Sub-clauses 3.3 to 3.5 above, the JVA shall include among other things: the JV's objective; the proposed management structure; the contribution of each partner to the joint venture operations; the commitment of the partners to joint and several liability for due performance; recourse/sanctions within the JV in the event of default or withdrawal of any partner; and arrangements for providing the required indemnities.

SECTION II

PARTICULAR INSTRUCTIONS TO APPLICANTS (PITA)

The PITA below is formatted for post qualification related to a single (individual) contract.

GITA Sub-Clause Reference	***These particular instructions and related Information Forms (IF) are intended to complement, amend, or supplement the provisions in the GITA. In the event of conflict or ambiguity, the provisions in the PITA shall prevail over those in the GITA.***
1.1	**The Employer is:** Ethiopian Roads Authority. **Name of Project:** Design and Construction of **Werabe – Bojeber Design and Build Road Project** **Contract Identification Number :----------** **Scope of Works:**The project involves selection of routes, designing and constructing of the road with design class of DC-5 Double Bituminous Surface Treatment (DBST) Standard. The work includes demolishing and removal of substandard structures, and construction of new culverts and Bridges if required. The project area is located in the south west of Addis Ababa within the moist to humid climatic zone with 'Dega' and 'Woinadega' climate group. Approximately half of the road corridor has 'Woinadega' (temperate) and the remaining half project section has 'Dega' (cool) climate. The works under this contract consists of new road Construction of around 38.5 km Road to DC-5 standard Now the FDRE, represented by Ethiopian Roads Authority has allocated sufficient budget to finance payments for the design and construction works of**Werabe – Bojeber Design and Build Road Project** Road Projectto facilitate the ongoing development projects along the route. ERA intends to construct the road project through a Design and Build contract delivery system
1.2	**Source of Fund:** The Government of The Federal Democratic Republic of Ethiopia (FDRE)
1.3	

	Bidding Documents: The Bidding documents are as mentioned in the "Bidding documents". **Types of Contract:** is Lump Sum amount for the entire project. Part of the major activity completed can be paid as payment for Design and Engineer's Facility Provision, Earth Work, Structures Work, Pavement Work, Asphalt Work, Ridge Pavement, Road Furniture and Environmental works as approved by the Supervision Consultant/Employer's Representative according to the payment schedule attached in the Bidding Document, Volume I, and Section VII. **Method of payment:** Direct through the Contractor's Bank Account. **Price is:** Adjustable as per the SCC **Time for completion is: 36 months including mobilization**.
2.1	**General** The bidder shall also provide the requested documentary evidences listed under Volume I, Section III, Particular Information to Instruction to Bidders, Sub clause 3.1 with the post qualification application.
2.2	**Nominated Subcontracting** Not Applicable
2.3,2.4	**Subcontracting by Applicant** Proposals for subcontracting elements of the Works such that the percentage of subcontracting shall be maximum 40% of the contract price. A minimum of two domestic subcontractors with category of GC5/RC5 to GC3/RC3 inclusive shall be employed by the contractor with a minimum of 10% of the contract price for each subcontracting. The portion of subcontracting work shall be earthworks and/or sub base, road base and gravel wearing coarse and/or bituminous and road base. The bidder shall attach a confirmation letter for the same in his post qualification documents.
2.7	**General Construction Experience** (a) Time period in the Construction Business: is **Three (3) years** for **local bidders** and **Five (5) years** for **foreign bidders**. (b) Required annual turnover: in the last five years (2010-2014 inclusive): Minimum Peak Annual Turnover of construction works over the past five years is

ETB 131 Million Birr for **local bidders**andAverage Annual Turnover of construction works over the past five years is **ETB 281 Million** for **foreign bidders.**

(c) N/A

2.8 **Particular Construction Projects Experience**

(a) Required number of Road Projects completed or at least 70% completed: in the last ten years, (i.e. 2005 – 2014 inclusive):

Item No.	Particular Construction Experience	Requirement	
		Local Bidders	**Foreign Bidders**
i.	Number of projects	One	Two
ii	Value of the projects	At least **281** Million Birr or **29** km length road project	At least ETB **450** Million or **39** km length road projects each
iii	Nature, Complexity & Similarity of projects	Gravel Road construction/ upgrading Project	Double Bituminous Surface Treatment Road construction/ upgrading Project

(b)key production rates:

Item	**Unit**	**Required Performance**	
		For local bidders	**For foreign bidders**

	Earth Works; cut & borrow to fill, cut to spoil **(common and intermediate excavation)**	m3/yr	186,546.99	373,093.98
	Sub-base	m3/yr	17,245.30	34,490.60
	Crushed Stone Base	m3/yr	11,643.39	23,286.78
	Asphalt Surfacing (AC for foreign) and any type of Asphalt surfacing for local	m^2/yr	52,229.19	104,458.38
2.9	**Financial Capabilities** liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract amounts **ETB 42 million** for **local Bidders** and **ETB 56 million** for **foreign bidders**			
2.12	**Personnel Capabilities** Bidder shall provide the following: 1. Organization Chart for the Head Office Staff who would be directly concerned with the Contract. 2. Organization Chart for Site management and key technical supervisory staff, 3. Organization Chart for Design works or sub contracting proposal A schedule of administrative and other technical staffs positions to be appointed on Site.			

(b) Position	**Total Experience (Years)**	**In Similar Works (Years)**	**Total Exp. for Proposed Position**	**Qualification**
Personnel Requirement for the Construction Crew				
1.Project Manager	8	5	3	B.Sc in Civil Engineering

2. Material/Pavement Engineer	6	4	2	B.Sc in Civil Engineering
3. Construction Engineer	6	4	2	B.Sc in Civil Eng.
4. Structural Engineer	6	4	2	B.Sc in Civil /Structural Eng.
5. Chief Surveyor	8	5	3	Diploma from Technical School
6. Lab. Technician	8	5	3	Diploma from Tech. School
Personnel Requirement For the Design Crew				
7. Highway Design Engineer	8	6	2	B.Sc in Civil Engineering
8. Material /Pavement Engineer	8	6	2	B.Sc in Civil Engineering
9. Bridge and Structure Design Engineer	8	6	2	B.Sc in Civil/Bridge/Structural Engineering
10. Senior Hydrologist/Hydraulic Engineer	8	6	2	B.Sc in Civil Engineering or in related field
11. Geotechnical Engineer	8	6	2	B.Sc in Civil Engineering or in related field
12. CAD Engineer	8	6	2	B.Sc in Civil Engineering
13. Chief Surveyor	10	8	2	Diploma from Technical School

2.13	**Equipment Capabilities**

	No.	Equipment type & Capacity	Minimum Required
	1	Bulldozer – (350 - 450 HP with ripper)	2
	2	Bulldozer – (280 – 300 HP with ripper)	1
	3	Wheel Loader /Traxcavator, 2.7 m3	2
	4	Motor grader (130 – 140 HP)	2
	5	Vibratory sheep foot roller	1
	6	Vibrator steel foot roller	1
	7	Water truck (12000 – 14000 lts.)	2
	8	Dump Truck (9-12 m3)	20
	9	Pneumatic Tired Roller	2
	10	Bitumen distributor – (6000 lts.)	1
	11	Mechanical broom	1
	12	Steel flat wheel roller (9 – 10 t)	2
	13	Crushing and screening plant (min. 100 tph)	1
	14	Tandem Roller (8 t)	2
	15	Pavement marking machine	1
	16	Concrete mixer (500 lts.)	2
	17	Excavator	1
	18	Traxcavator	1
2.14	**Litigation History** All pending litigation shall in total not represent more than **Thirty Percent (30%)** of the Bidder's net worth and shall be treated as resolved against the Bidder.		
2.15	**History of Non-Performing Contracts** i.) Nonperformance of a contract did not occur within the last Five (5) years prior to the deadline for Qualification submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the Bidder have been exhausted. In addition to the submitted information, the Employer reserves the right to obtain any records of non-performance of the Bidders in the past 3 years from official records		

	within or outside of Ethiopia as a basis for qualification. ii.) If a bidder is not performing to the satisfaction of the Employer on the already awarded contracts with the Employer, then ERA may use its performance record in the assessment of the Bidders' qualifications. Besides, if the Employer, based on full documentary evidence, establishes poor performance by any other Bidders engaged in similar works in Africa and other developing countries, on any contracts carried out over the last 5 years, then the Employer may use this information in the assessment of the Bidders' qualifications. iii.) Any contractor's performance shall be evaluated based on the ERA's contractor's performance assessment framework and rated accordingly. The minimum acceptable performance on ongoing contract shall be revised to reflect the actual situations. The minimum acceptable performance on ongoing contracts is set from time to time by ERA BOARD.
3.2	**Clarification of Applications** Amend 3.2 as follows: (i) The joint venture must satisfy collectively the criteria of Clause 2. For this purpose the following data of each member of the joint venture may be added together to meet the collective qualifying criteria: (l) General construction experience for the period of years stated in Sub-Clause 2.7(a), (m) Average annual turnover (Sub-Clause 2.7[b]); (n) Particular experience (Sub-Clause 2.8[a]) and key production rates (Sub-Clause 2.8 [b]); (o) Construction cash flow (Sub-Clause 2.9); (p) Personnel capabilities (Sub-Clause 2.12); and (q) Equipment capabilities (Sub-Clause 2.13).

	(ii) Each partner must satisfy the following criteria individually; (r) Adequate sources to meet financial commitments on other contracts (Sub-Clause 2.10), (s) Financial Soundness (Sub-clause 2.11) and, (t) Litigation History (Sub- clause 2.14). (u) History of Non-Performing Contracts (Sub- clause 2.15). (v) documentary evidences listed under Volume I, Section III, Particular Information to Instruction to Bidders, Sub clause 3.1 In accordance with the above, the application shall include all related information required under Clause 2 for individual partners in the Joint Venture. **Note:** For all qualification requirements; If the bidder is a joint venture formed between local and foreign contractors, it is the criteria set for foreign bidders that shall be met by the combined parties in case the criteria is a **"joint venture must satisfy collectively, 3.2(i) above".** Otherwise if the criteria is a **"Each partner must satisfy 3.2(ii) above"**, a member of the joint venture which has foreign origin shall meet the requirement of the criteria set for foreign bidders whereas a member of the joint venture which has local origin shall meet the requirement of the criteria set for local bidders. If a bidder was awarded and/or recommended for award of any works contract/s by ERA since [date to be inserted later] inclusive, the qualification criteria for the construction turnover and key activity will be the aggregate of the criteria of the subject project; and criteria of the awarded contract/s and/or those recommended to be awarded.
3.4	Partner Limitation: The limit in the number of partners in a joint venture is up to maximum of 3 (three). The same bidder may form a joint venture with not more than one bidders.

Appendix -V Sample DB Road Project Concept Design Report Conclusion & Recommendation (by design consultant)

8. Conclusion and Recommendation

The main interest of the study is to indicate the expected scope of the road project, and most probable Design Standards to be adopted for the project road based on the Design Traffic.

In general, the design development of highway are an essential component and the design should be safe, durable, economical, constructible and aesthetics.

For the Werabe – Bojeber Design - Build Road Project, the consultant has recommended a design class of DC5 Standard with DBST carriage way and unpaved shoulder type.

The project length is estimated to be 38.34km. The whole length of Alternative Route I traverse all along a ridge line alignment section. The horizontal alignment of the selected route is satisfactory since the tangents have long distances connected by gentle winding curves. However, there are two switch back curves from km 7+000-km 7+800. There is no considerable fall or descending elevation and since the alignment is on a ridge line location structural and earthwork excavation quantities would be the optimum.

This proposed Alternative Route starts at a junction point of an existing surfaced track road and the Butagera–Hosaina-Sodo asphalt road with coordinates of X=410383.95Em, Y=868197.29Nm and an altitude of 2087m. and it terminates at a junction point on the recently completed Asphalt surfaced Butagera – Bojeber - Gubre Road with coordinates of X=414105.71Em, Y=896556.41Nm and an altitude of 3347m. The terminal point of the road project as per the TOR (Terms Of Reference) is Bojeber Town which is about 6.43km ahead of the point where Alternative Route I terminates.

Appendix -VI Sample Form of bid

(Lump SumCost Offered for a Project)

Form of Bid/Tender

Name of Contract: ***Beles – Mekane Birhan Design and Build Road Project (Approx 39km)***

To: Ethiopian Roads Authority
P.O.Box 1770
Ras Abebe Aregay Street
Addis Ababa

Gentlemen:

1. Having examined the Conditions of Contract, Employer's requirement, and Addenda Nos. Addenda Nos.1,2,3 and 4 for the Design and execution of the above-named Works we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract, Employer's requirement, , and Addenda with:

   (a) Total Lump Sum cost of **1,042,406,509.36 (One Billion Forty two Million Four Hundred Six Thousand Five Hundred Nine and 36/100 including VAT, which we have estimated for the sum 135,966,066.44 (One Hundred Thirty Five Million Nine Hundred Sixty Six Thousand Sixty six and 44/100)**

2. We acknowledge that the Appendix forms part of our Bid.

3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer's Representative notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Bid.

4. We agree to abide by this Bid until the date 120 days from date of bid submission specified in the Bidding Data and it shall remain binding upon us and may be accepted at any time before that date.

   We confirm that we have submitted a bid security for the required amount of **ETB 500,000.0** valid for 148 days (i.e. a bid validity period of 120days plus 28 days in the full name of the "**Ethiopian Roads Authority**" not in any other name.

5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.

Appendix -VII Result of a Study in USA Pennsylvania State University,(

Table 2. Nutshell: US project delivery systems compared.[4]

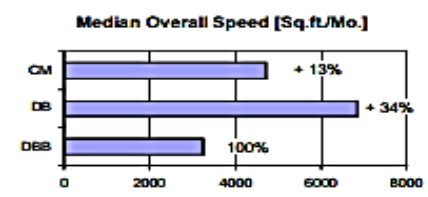
The most comprehensive comparative study on the US project delivery methods has been made at the Pennsylvania State University, commissioned by the Construction Industry Institute (CII). The study compared the three principal project delivery systems used:

- construction management at risk (CM)
- design-build (DB), and
- traditional design-bid-build (DBB).

The research was based on a statistical analysis of 351 building projects, focussing on the comparison of the cost, schedule and quality attributes of these different delivery systems. Speed and cost performance were analyzed on the basis of actualized data and quality attributes were based on the scores given by the project owners.

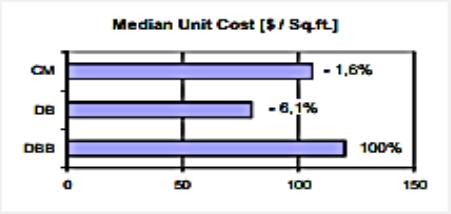
As regards speed and cost data, the bar charts below present the univariate results. The percentages, again, depict CM's and DB's minimum difference to DBB's performance when the impact of other possible variates was eliminated.

According to the study results, the overall time needed for the design and construction is significantly less in projects utilizing design-build compared to the other types. Median values for overall speed were:

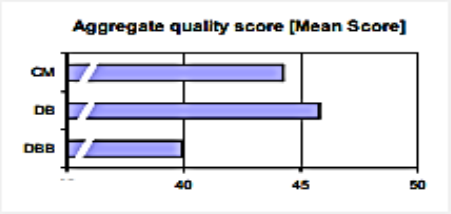


As regards the time required for actual construction, the results are parallel with those for overall speed, but the differences are smaller. In the case of design-bid-build, schedule growth also seems to be a bigger risk than for its alternatives.

Correspondingly, cost growth from contract cost to final cost was the largest in design-bid-build projects while it was slightly less in Construction Management and, especially, Design-Build. Total project costs per unit were the following:



Qualitative evaluations also supported the superiority of the design-build system. There were seven qualitative measures used and the aggregate scores were as follows:



Four of the qualitative metrics focussed on the functioning of various systems of the building. The division of systems was:

- Envelope, Roof, Structure & Foundations
- Interior Space & Layout
- Environment, and
- Process Equipment & Layout.

The three other qualitative metrics used were:

- Start Up
- Call Backs, and
- Operation & Maintenance.

Based on the valuation of quality, Construction management is vying with Design-Build almost evenly. Only according to the measure of operation and maintenance cost, was Design-Build superior. Design-Bid-Build, again, was put at a disadvantage by all the other quality measures except in operation and maintenance.

[4] Konchar (1997); also: Project Delivery Systems...(1997); Konchar & Sanvido (1998) AND Sanvido & Konchar (1999)

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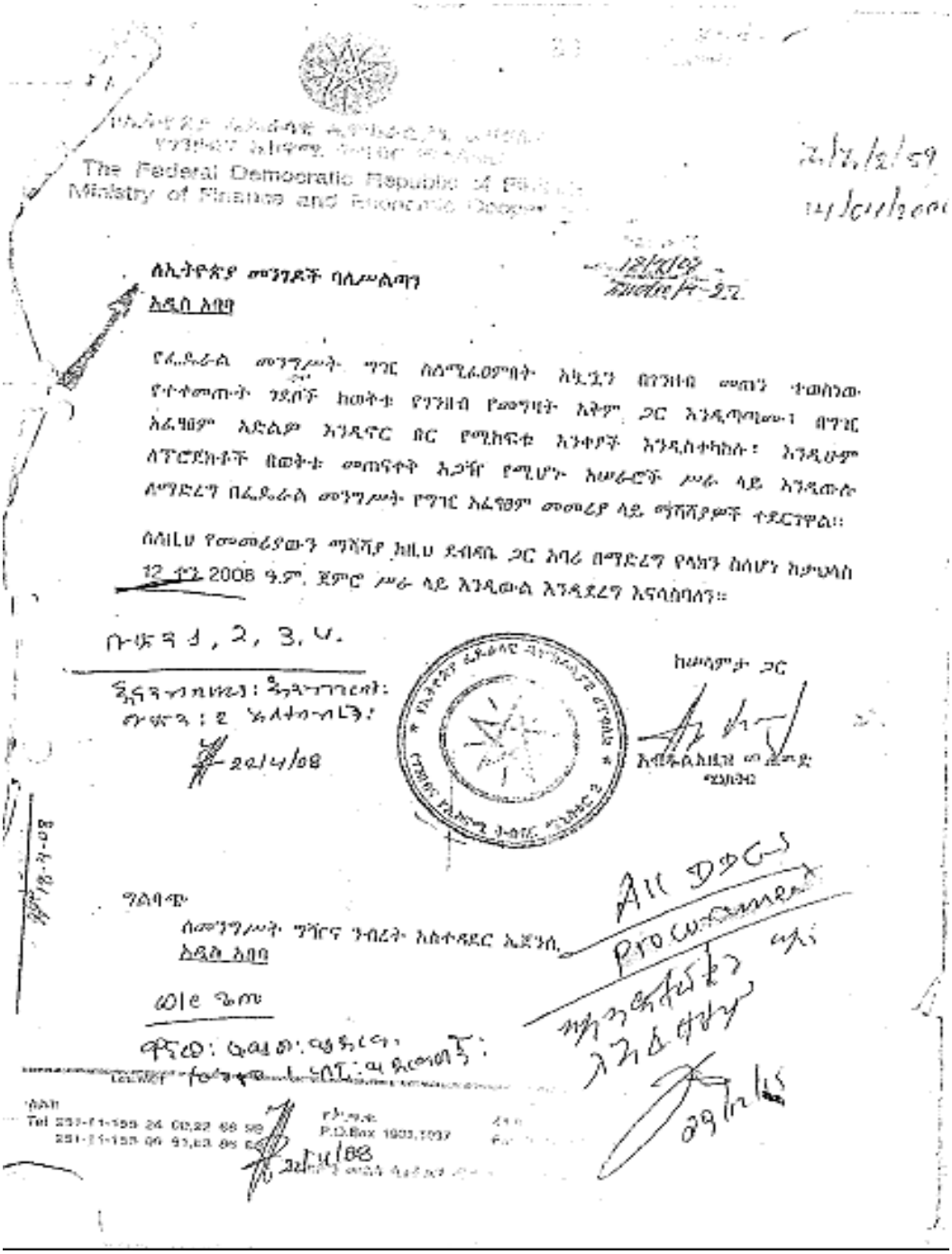
Lahdenpera [21])

Appendix -VIII Amendment of PublicProcurementand Property AdministrativeAgency,PublicProcurement Manual

(a Letter Sent to ERA (2015))



የፌዴራል መንግሥት የግዥ አፈጻፀም መመሪያን
<u>ለማደጎና ለማሻሻል የወጣ መመሪያ</u>

የፌዴራል መንግሥት የግዥ አፈፃፀም መመሪያን ማሻሻል አስፈላጊ ሆኖ በመገኘቱ፣

መመሪያው ከዚህ እንደሚከተለው ተሻሽሏል፡፡

1. <u>አጭር ርዕስ</u>

ይህ መመሪያ "የፌዴራል መንግስት የግዥ አፈፃፀም መመሪያን (እንደተጎ) ለማሻሻል የወጣ መመሪያ" ተብሎ ሊጠቀስ ይችላል፡፡

2. <u>ማሻሻያ</u>

የፌዴራል መንግስት የግዥ አፈፃፀም መመሪያ እንደሚከተለው ተሻሽሏል፡፡

1. የመመሪያው አንቀጽ 6(5) ተሠርዞ በሚከተለው አዲስ አንቀጽ 6(5) ተተክቷል፡፡

"6(5) በአዋጁ አንቀጽ 35 የተገለፀው እንደተጠበቀ ሆኖ በዓለም ፀቀፍ ግልፅ ጨረታ የሚፈፀመውን ግዥ ጨምሮ የግንዘብ መጠን ከዚህ ንዑስ አንቀጽ ከተገለፀው እና ከዚያ በላይ የሆነን ግዥ የጨረታ ማስታወቂያው ቢጋዜጣ በወጣበት ተመሳሳይ ጊዜ በኤጀንሲው የመረጃ መረብ (ድረ ገፅ) ላይ ለሕዝብ ይፋ ያደርጋል፡፡

ሀ)	ለግንባታ ሥራ	ከብር	20,000,000 በላይ
ለ)	ለዕቃ	ከብር	6,000,000 በላይ
ሐ)	ለምክር አገልግሎት	ከብር	4,000,000 በላይ
መ)	ለሌሎች አገልግሎቶች	ከብር	2,000,000 በላይ"

2. ከመመሪያው አንቀጽ 16.8.6 ቀጥሎ የሚከተለው አዲስ አንቀጽ 16.8.7 ተጨምሯል፡፡

"16.8.7 የዚህ አንቀጽ ንዑስ አንቀጽ 16.8 እንደተጠበቀ ሆኖ ፀግንባታ ሥራ ግዥ ዘርፍ የሚጠየቀው የሥራ ልምድና የብቃት መስፈርት ከዚህ መመሪያ ጋር በተያያዘው አባሪ "6" ከተመለከቱት መስፈርቶች ጋር የተጣጣመ መሆኑ ይኖርበታል፡፡"

3. ከመመሪያው አንቀጽ 16.26.9 ቀጥሎ የሚከተለው አዲስ አንቀጽ 16.26.10 ተጨምሯል።

"16.26.10 በግንባታ ሥፍራ ላይ ለሚገኙ የግንባታ ዕቃዎች (ማቴሪያሎች) ከዋጋቸው እስከ ሃምሳ በመቶ (50%) የሚደርስ ክፍያ መፈፀም ይቻላል። ሆኖም ግሽ ፈፃሚ መሥሪያቸዉ የተጠቀሰውን የ50% ክፍያ ከመፈፀማቸው በፊት የሚከተሉትን የጥንቃቄ እርምጃዎች መወሰድ ይኖርባቸዋል።

ሀ) በግንባታ ሥፍራ ላይ ለሚገኙ ዕቃዎች ክፍያ እንዲከፈለው የሚጠይቅ ማናቸውም ሥራ ተቋራጭ የሚያቀርባቸው ዕቃዎች የተገዙበትን ዋጋ የሚያመለክት ደረሰኝ ትክክለኛነት በግሽ ፈፃሚ መሥሪያቤቱ እና በአማካሪው መረጋገጥ ይኖርበታል።

ለ) ክፍያ የተፈፀመባት በግንባታ ሥፍራ የሚገኝ የግንባታ ዕቃ ሥራ ላይ እንዲውል ሲደረግ የተፈፀመው ክፍያ ከሚቀጥለው ክፍያ መቀነስ አለበት።

ሐ) በአንድ የግንባታ ሥፍራ የሚገኙ ዕቃዎችን ለሌላ የግንባታ ፕሮጀክት በግልጽትነት መጠቀምም ሆነ ለሌላ የተለየ ዓላማ ማዋል አይቻልም።

መ) ሥራ ተቋራጩ በግንባታ ሥፍራ ላይ ለሚገኙ ዕቃዎች ክፍያ እንዲከፈለው ከሚያቀርበው ጥያቄ ጋር ዕቃዎቹ በክምችት ላይ እያሉ አደጋ ቢደርስባቸው፣ ቢሰረቁ፣ ወይም ለረጅም ጊዜ ሥራ ላይ ሳይውሉ ቢመቅረታቸው ቢበላሹ የጉዳቱን መጠን ስማክስ አንዲቻል በግንባታ ሥራ መደበኛ የጨረታ ሠነድ አጠቃላይ የውል ሁኔታዎች አንቀጽ 40 ላይ በተጠቀሰው አግባብ ኢንሹራንስ በመግባት ዕቃዎቹ ኢንሹራንስ የተገባላቸው መሆኑን የሚያመለክት ማስረጃ ማቅረብ ይኖርበታል።"

4. የመመሪያው አንቀጽ 17.2 ተሠርዞ በሚከተለው አዲስ አንቀጽ 17.2 ተተክቷል።

"17.2 በአዋጁ አንቀጽ 59 ንዑስ አንቀጽ 1 ላይ የተመለከቱት ለሎች የግሽ ሁኔታዎች እንደተጠበቁ ሆነው በዓለም ዐቀፍ ግልፅ ጨረታ ግሽ ሲፈፀም የሚችለው የግሽው የንዘብ መጠን ከሚከተለው በላይ ሲሆን ነው።

ሀ)	ለግንባታ ሥራ	ከብር	150,000,000 በላይ
ለ)	ለዕቃ	ከብር	50,000,000 በላይ
ሐ)	ለምክር አገልግሎት	ከብር	7,500,000 በላይ
መ)	ለሌሎች አገልግሎቶች	ከብር	21,000,000 በላይ"

5. የመመሪያው አንቀጽ 21.1 ተሠርዞ በሚከተለው አዲስ አንቀጽ 21.1 ተተክቷል።

"21.1 የመንግሥት መ/ቤት የምክር አገልግሎት ግዥን የመወዳደሪያ ሀሳብ በመጠየቅ መፈፀም ያለበት እና የግዥው ግምታዊ የገንዘብ መጠን ከብር 900,000 (ዘጠኝ መቶ ሺህ ብር) በላይ ሲሆን፣ በዚህ መመሪያ አንቀጽ 22 መሠረት ግዥውን የፍላጎት መግለጫ ጥሪ በማካሄድ መፈፀም አለበት።"

6. የመመሪያው አንቀጽ 22(1) መንደርደሪያ ተሠርዞ በሚከተለው ተተክቷል።

"22.1 የመንግሥት መ/ቤት የምክር አገልግሎት ግዥው ግምታዊ ዋጋ ከብር 900,000 (ዘጠኝ መቶ ሺህ ብር) የሚበልጥ በሚሆንበት ጊዜ፣ በምክር አገልግሎቱ አቅርቦት ለመሠማራት ፍላጎት ያላቸውን ዕጩ ተወዳዳሪዎች በመጋበዝ ጥሪ ማድረግ ይኖርበታል።"

7. የመመሪያው አንቀጽ 23.3 ተሠርዞ በሚከተለው አዲስ አንቀጽ 23.3 ተተክቷል።

"23.3 ከዚህ በላይ በንዑስ አንቀጽ 23.2 የተመለከቱት እንደተጠበቁ ሆነው በአዋጁ አንቀጽ 49.2 መሠረት በውስን ጨረታ የግዥ ዘዴ መጠቀም የሚቻለው የሚገዛው የግንባታ ዘርፍ ሥራ፣ ዕቃ፣ የምክር አገልግሎት ወይም አገልግሎት ጠቅላላ ዋጋ ከሚከተለው የማይበልጥ ሲሆን፣ ብቻ ነው።

ሀ)	ለግንባታ ሥራ	ብር	6,000,000
ለ)	ለዕቃ	ብር	1,500,000
ሐ)	ለምክር አገልግሎት	ብር	900,000
መ)	ለሌሎች አገልግሎቶች	ብር	1,200,000

ሠ) የግንባታ ዕቃዎችን የማቅረብ ኃላፊነት የግዥ ፈፃሚው መ/ቤት በሚሆንበት የግንባታ ሥራ ውል ለግንባታ ዕቃዎች ግዥ ተግባራዊ የሚሆነው ለግንባታ ሥራ ግዥ የተፈቀደው የገንዘብ ጣሪያ ይሆናል።"

[illegible]

3

8. የመመሪያው አንቀጽ 24.2 ተሠርዞ በሚከተለው አዲስ አንቀጽ 24.2 ተተክቷል።

"24.2 ከሚከተለው የንብረቱ መጠን የማይበልጥ እና በዋጋ በማቅረቢያ የማሻሻ ሀሳቡ የሚፈፀም ማሻሻያ ለማሻሻ አቅዱ ኮሚቴ ማቅረብ ሳያስፈልግ በመሰቤቱ የበላይ ኃላፊ ወይም እርሱ በሚወክለው ሰው አንዲሰጥ በማድረግ ማሻሻ መፈፀም ይቻላል።

ሀ) ለግንባታ ሥራ እስከ ብር 500,000
ለ) ለዕቃ እስከ ብር 200,000
ሐ) ለምክር አገልግሎት እስከ ብር 120,000
መ) ለሌሎች አገልግሎቶች እስከ ብር 150,000

ሠ) የግንባታ ዕቃዎችን የማቅረብ ኃላፊነት የማሻሻ ፈፃሚው መሰቤት በሚሆንበት ጊዜ ለግንባታ ዕቃዎች ማሻሻ ተግባራዊ የሚሆነው ለግንባታ ሥራ ማሻሻ የተፈቀደው የንብረቱ መጠን ይሆናል።"

9. የመመሪያው አንቀጽ 25(7) (ሀ) ተሠርዞ በሚከተለው አዲስ አንቀጽ 25(7) (ሀ) ተተክቷል።

"25(7)(ሀ) የመንግሥት መሰቤት በማሻሻ ዕቅድ ውስጥ ያልተካተቱ ዋጋቸው ከብር 5,000 (አምስት ሺህ ብር) ያልበለጠ ዕቃዎችን ወይም አገልግሎቶችን ወይም በጉዞ ወቅት የሚያጋጥሙ ችግሮችን ከመፍታት ጋር የተያያዙ የቀጥታ ማሻሻያዎችን ከማናቸውም ሽጥ ድርጅት መፈፀም ይችላል። ሆኖም በዚህ ዓይነት የሚፈፀሙ ጥቃቅን ማሻሻያዎች ድምር በአንድ የበጀት ዓመት ውስጥ ከብር 75,000 (ሰባ አምስት ሺህ ብር) መብለጥ አይኖርበትም።"

3. <u>ተፈፃሚ የሚሆንበት ቀን</u>

ይህ መመሪያ ከታህሳስ 1 ቀን 2008 ዓ.ም. ጀምሮ ተፈፃሚ ይሆናል። በመሆኑም በግንባታ ሥፍራ ላይ ለሚገኙ የግንባታ ዕቃዎች ስለሚከፈለው ክፍያ የሚደነግገው አንቀጽ 16.26.10 ተፈፃሚ የሚሆነው ይህ መመሪያ ተፈፃሚ ከሚሆንበት ቀን ጀምሮ ተገዝተው ወደግንባታ ሥፍራ ለሚገቡ ዕቃዎች ብቻ ነው።

አዲስ አበባ ታህሳስ 12 ቀን 2008 ዓ.ም.

አብዱልአዚዝ መሐመድ
የገንዘብና የኢኮኖሚ ትብብር ሚኒስትር

በግንባታ ሥራ ግሽበት የብቃት መስፈርት አወሳሰን

1. ትርጓሜ

ለዚህ መመሪያ አፈጻጸም፡-

ሀ) "አነስተኛ ህንጻ (Low-Rise Building)" ማለት ምንም ዓይነት አሳንሰር ወይም አሳንሰርን የሚተካ ከምድር ወደ ርቅ አንዲሁም ከርቅ ወደ ምድር የሚያመላልስ መሣሪያ የሌለው ሆኖ ከምድር በላይ ከአምስት ያነሱ ፎቆች ያለው ነው፤

ለ) "መካከለኛ ህንጻ (Mid-Rise Building)" ማለት ከምድር በላይ ቢያንስ አምስት ፎቆች ያለው ሆኖ ከአሥራ አምስት ፎቆች በላይ የሌለው ነው፤

ሐ) "ከፍተኛ ህንጻ (High-Rise Building)" ማለት ከምድር በላይ ቢያንስ አሥራ አምስት ፎቆች ያለው ሆኖ ከአርባ አምስት ፎቆች በላይ የሌለው ነው፤

መ) "በጣም ከፍተኛ ህንጻ (Mega-High Rise Building)" ማለት ከምድር በላይ ቢያንስ አርባ አምስት እና ከዚያ በላይ ፎቆች ያለው ነው፤

ሠ) "አጭር ርዝመት ያለው ድልድይ (Short Span)" ማለት ለተሽከርካሪዎች ወይም ለሌሎች የመንገገር ዘዴዎች የሚያገለግል ሆኖ ርዝመቱ ከ25 (ሃያ አምስት) ሜትር ያነሰ ድልድይ ነው፤

ረ) "መካከለኛ ርዝመት ያለው ድልድይ (Medium Span)" ማለት ለተሽከርካሪዎች ወይም ለሌሎች የመንገገር ዘዴዎች የሚያገለግል ሆኖ ርዝመቱ ከ25 (ሃያ አምስት) ሜትር የማያንስ እና ከ50 (ሃምሳ) ሜትር የማይበልጥ ድልድይ ነው፤

ሰ) "ረጅም ርዝመት ያለው ድልድይ (Long Span)" ማለት ለተሽከርካሪዎች ወይም ለሌሎች የመንገገር ዘዴዎች የሚያገለግል ሆኖ ርዝመቱ ቢያንስ 50(ሃምሳ) እና ከዚያ በላይ የሆነ ድልድይ ነው፤

ሸ) "በአጥጋቢ ሁኔታ የተጠናቀቀ" ማለት የሥራው 70% (ሰባ በመቶ) እና ከዚያ በላይ የተጠናቀቀ የግንባታ ሥራ ፕሮጀክት ነው፤

Annex VI to Proc. Dir/GT

ኤፀዩልአለ/ህ መ ሐመድ
ሚኒስቴር .

ሐ) "በአስተማማኝ ሁኔታ የተጠናቀቀ" ማለት በሥራ ተቋራጩ የተሠራው 70% (ሰባ በመቶ) እና ከዚያ በላይ በተቀመጠለት የጊዜ ሠሌዳ እና በሚፈለገው የጥራት ደረጃ ለመሠራቱ ከአሠሪ መ/ቤቱ የተሰጠ የሚያረጋግጥ ሰርተፊኬት ወይም የሥራ ልምድ ማስረጃ የቀረበበት የግንባታ ሥራ ፕሮጀክት ነው።

2. <u>አጠቃላይ ልምድን በተመለከተ</u>

ሀ) የኮንስትራክሽን ሚኒስቴር በሚሰጠው ደረጃ መሠረት ከደረጃ 6 እስከ 10 ካሉት በስተቀር ሌሎች የሀገር ውስጥ ሥራ ተቋራጮች በሥራ ተቋራጭ፣ በሽርክና ማኅበር (Joint venture) ወይም በንዑስ ሥራ ተቋራጭ ደረጃ በዘርፉ ቢያንስ የ2 ዓመት የሥራ ልምድ ሊኖራቸው ይገባል::

ለ) የውጪ ሀገር ሥራ ተቋራጮች በሥራ ተቋራጭ፣ በሽርክና ማኅበር ወይም በንዑስ ሥራ ተቋራጭ ደረጃ በዘርፉ ቢያንስ የ5 ዓመት ልምድ ሊኖራቸው ይገባል::

3. <u>ተዛማጅ የሥራ ልምድን በተመለከተ</u>

ሀ) የሀገር ውስጥ ሥራ ተቋራጮች ባለፉት አሥር ዓመታት ውስጥ ሊሠራ ከታሰበው የግንባታ ሥራ ጋር <u>ተመሳሳይ</u> በሆኑ ቢያንስ አንድ የግንባታ ሥራ በሥራ ተቋራጭነት፣ በሽርክና ማኅበር አባልነት ወይም በንዑስ ሥራ ተቋራጭነት የሠሩና ቢያንስ የሥራውን 70%(ሰባ በመቶ) በአስተማማኝ እና አጥጋቢ ሁኔታ ያጠናቀቁ መሆን አለባቸው::

ለ) የግንባታ ሥራው ግምት ከብር አንድ ቢሊዮን በታች ሲሆንና፣ ሥራ ተቋራጮች በፊደል ተራ "ሀ" <u>ላይ የተጠየቀውን</u> የተዛማጅ ሥራ ልምድ ዋጋ በአንድ ፕሮጀክት በሠሩት የሥራ ልምድ ብቻ ማሟላት ካልቻሉ በአጥጋቢ እና በአስተማማኝ ሁኔታ የተጠናቀቁና ሊሠራ ከተፈለገው ሥራ ጋር ተዛማጅ የሆኑ ሁለት ፕሮጀክቶች ዋጋ ድምር በልምድነት ሊያዝላቸው ይችላል:: ሆኖም የሁለቱ ፕሮጀክቶች የተናጠል ዋጋ ማሟላት ከሚገባቸው የሥራ ልምድ ዋጋ ከግማሽ (1/2) በታች መሆን አይኖርበትም።

2

Annex VI to Procur.Dir/CT

አብዱልአዚዝ መሐመድ
ሚኒስቴር

ሐ) የግንባታ ሥራው ግምት ከብር አንድ ቢሊዮን እና ከዚያ በላይ ሲሆንና፣ ሥራ ተቋራጮች በፈደል ተራ "ሀ" ላይ የተጠየቀውን የተዛማጅ ሥራ ልምድ ዋጋ በአንድ ፕሮጀክት በሠሩት የሥራ ልምድ ብቻ ማሟላት ካልቻሉ በአጥጋቢ እና በአስተማማኝ ሁኔታ የተጠናቀቁ ሦስት ፕሮጀክቶች ድምር በልምድነት ሊያዝላቸው ይችላል። ሆኖም የሦስቱ ፕሮጀክቶች የተናጠል ዋጋ ማሟላት ከሚገባቸው የሥራ ልምድ ዋጋ ከሲሶ (1/3) በታች መሆን አይኖርበትም።

መ) የውጭ ሀገር ሥራ ተቋራጮች ባለፉት አሥር ዓመታት ውስጥ ሊሠራ ከታሰበው የግንባታ ሥራ ጋር ተመሳሳይ የሆኑ ቢያንስ ሁለት የግንባታ ሥራዎችን በሥራ ተቋራጭነት፣ በሽርክና ማኅበር አባልነት ወይም በንዑስ ሥራ ተቋራጭነት የሠሩና ቢያንስ የሥራውን 80% (ሰማንያ በመቶ) በአስተማማኝና እና በአጥጋቢ ሁኔታ ያጠናቀቁ መሆን አለባቸው።

ሠ) ተቋራጩ ያቀረበው የሥራ ልምድ በንዑስ ሥራ ተቋራጭነት ወይም በሽርክና ማኅበር አባልነት የተገኘ ሲሆን፣ በንዑስ ሥራ ተቋራጭነት የሠራው መጠን ብቻ ወይም በሽርክና ማኅበሩ ካለው ድርሻ ጋር ተመጣጣኝ የሆነ ልምድ ብቻ በሥራ ልምድነት እንዲያዝለት ይደረጋል።

ረ) ለጨረታ ግምገማ ዓላማ የሥራ ተቋራጩ በሥራ ልምድነት እንዲያዝለት በሚያቀርበው የግንባታ ዋጋ ላይ ማስተካከያ የሚደረገው፣ ጨረታ ከሚቀርብበት የመጨረሻ ቀን 28 ቀናት በፊት የነበረው የምንዛሪ መጣኔን ውሉ በተፈረመበት ጊዜ በነበረው የምንዛሪ መጣኔ በማካፈል ከተሰላ በኋላ በሚገኘው ውጤት በማባዛት ነው። ማስተካከያው የሚሰላው የኢትዮጵያ ብሔራዊ ባንክ የሚሰጠውን የውጭ አገር ገንዘብ መሸጫ ዋጋ መረጃ መሠረት በማድረግ ይሆናል።

ሰ) የሚጠየቀው የሥራ ልምድ ተመሳሳይነት የሚመሰነው በዚህ አባሪ በተገለጸው ዝርዝር አሠራር መሠረት ሆኖ ለሕንፃ ግንባታ ሥራ የሕንፃውን ቁመት፣ ለመንገድ ግንባታ ሥራ የመንገዱን ዓይነትና ርዝመት፣ ሰድልድይ ሥራ የድልድዩን ርዝመት መሠረት በማድረግ ሲሆን፣ ለሀገር ውስጥ የሥራ ተቋራጮች የሚጠየቀው የሥራ ልምድ በሁሉም የግንባታ ዘርፍ ሊሠራ ከታሰበው ሥራ አንድ ደረጃ ዝቅ ያለ እና ከዚያ በላይ መሆን አለበት።

Annex VI to Procur Dir/GT

4. የፋይናንስ አቅምን ስለመለካት

ሀ) የሥራ ተቋራጮች ያለፉት አምስት ዓመታት የፋይናንስ አቋማቸውንና ትርፋማነታቸውን የሚያሳይ በተመሰከረለት ኦዲተር የተረጋገጠ የፋይናንስ ሪፖርት ማቅረብ ይኖርባቸዋል።

ለ) በሥራ ተቋራጮቹ የሚቀርበው የፋይናንስ ሪፖርት ከሚመለከተው ግብር ሰብሳቢ መሥሪያ ቤት ከሚገኝ ሪከርድ ጋር ተመሳክሮ ትክክለኛነቱ መረጋገጥ ይኖርበታል።

5. ዓመታዊ የተርንኦቨር መጠንን ስለመለካት

ሀ) የሀገር ውስጥ ሥራ ተቋራጮችን በተመለከተ ለጨረታ ግምገማ ዓላማ የሚወሰደው በግንባታ ላይ ካለና ከተጠናቀቀ የግንባታ ሥራ ላይ የተሰበሰበ ክፍያ ዓመታዊ ተርንኦቨር መካከል ተቋራጩ ባለፉት አምስት ዓመታት ውስጥ ካስመዘገበው የግንባታ ሥራ ዓመታዊ ተርንኦቨር የተሻለውን በመምረጥ ሆኖ፣ ሥራ ተቋራጮች እንዲያሟሉ የሚጠየቁት የተርንኦቨር መጠን የሚሰላው ሊሠራ የታሰበውን የግንባታ ሥራ ግምታዊ ዋጋ፤ ቀናትን ወደሚቀጥለው ሙሉ ወር በማጠጋጋት፣ ግንባታው ይጠናቀቃል ተብሎ በሚገመትበት ወርሃዊ ጊዜ በማካፈል እና ውጤቱን በ1 በማባዛት ይሆናል። ለምሳሌ፣ አንድ ፕሮጀክት በሁለት ዓመት ከአንድ ወር ከ10 ቀን የሚጠናቀቅ ቢሆንና የዋጋ ግምቱ ብር 100 ሚሊዮን ቢሆን ሂሳቡ እንደሚከተለው ይሰላል

$$\frac{100{,}000{,}000}{26} \times 12 \times 1 = \text{ብር } 46{,}153{,}846$$

ለ) የውጭ ሀገር ሥራ ተቋራጮችን በተመለከተ ለጨረታ ግምገማ ዓላማ የሚወሰደው በግንባታ ላይ ካለና ከተጠናቀቀ የግንባታ ሥራ ላይ የተሰበሰበ ክፍያ ዓመታዊ ተርንኦቨር፣ የተቋራጩ ያለፉት አምስት ዓመታት ዓመታዊ የግንባታ ተርንኦቨር አማካይ ሆኖ፣ የሚጠየቀው መጠን የሚሰላው ሊሠራ የታሰበውን የግንባታ ሥራ ግምታዊ ዋጋ፤ ቀናትን ወደሚቀጥለው ሙሉ ወር በማጠጋጋት፣ ግንባታው ይጠናቀቃል ተብሎ በሚገመትበት ወርሃዊ ጊዜ በማካፈል እና ውጤቱን በ2 በማባዛት ይሆናል።

Annex VI to Procur. Dir/G1

4

Ministry of Finance and Economic Cooperation ARCHIVES 2

ሐ) በሽርክና ማኅበር ደረጃ ጥምረት ፈጥረው የሚመዘገቡት ሥራ ተቋራጮች የሀገር ውስጥ እና የውጭ ሀገር በሚሆኑበት ጊዜ ለጨረታ ግምገማ ዓላማ የሚወሰደው በግንባታ ላይ ካለና ከተጠናቀቀ የግንባታ ሥራ ላይ የተሰበሰበ ከፍተኛ ዓመታዊ ተርንኦቨር የሥራ ተቋራጮቹ ያለፉት አምስት ዓመታት ዓመታዊ የግንባታ ተርንኦቨር ድምር አማካይ ሆኖ የሚጠየቀው መጠን የሚሰላው ሊሠራ የታሰበውን የግንባታ ሥራ ግምታዊ ዋጋ፣ ቀናትን ወደሚቀጥለው ሙሉ ወር በማጠጋጋት ግንባታው ይጠናቀቃል ተብሎ በሚገመትበት ወርኛ ጊዜ በማካፈል እና ውጤቱን በ1.5 በማባዛት ይሆናል።

መ) በጨረታ ግምገማ ጊዜ ለሚደረግ ማስተካከያ ዓላማ ለተርንኦቨር ስሌት የሚወሰደው ሥራ ተቋራጩ ያቀረበው ዓመታዊ የግንባታ ሥራ ተርንኦቨር መጠን፣ ጨረታ ከሚቀርብበት የመጨረሻ ቀን 28 ቀን በፊት የነበረውን የምንዛሬ መጣኔን በእያንዳንዱ በጀት ዓመት የመጨረሻ ቀን ላይ ባለው የምንዛሬ መጣኔ በማካፈል ነው። ማስተካከያው የሚሰላው የኢትዮጵያ ብሔራዊ ባንክ የሚሰጠውን የውጭ አገር ገንዘብ መሸጫ ዋጋ መረጃ መሠረት በማድረግ ይሆናል።

ሠ) ሥራ ተቋራጮቹ በሽርክና ማኅበር ደረጃ ጥምረት የፈጠሩ ከሆኑ እያንዳንዳቸው የሽርክና ማኅበሩ አጋር ድርጅቶች ማሟላት የሚገባቸው የተርንኦቨር መጠን ከተጠየቀው ከ25 በመቶ እና የዋናው ሥራ ተቋራጭ ደግሞ ከ40 በመቶ ማነስ የለበትም።

ረ) የምህንድስና ዋጋ ግምት እና የግንባታው ሥራ የሚፈጀውን ጊዜ የመወሰን ኃላፊነት የተሰጠው ማንኛውም አካል የምህንድስና ዋጋውን ወይም ሥራው የሚፈጀውን ጊዜ ከፍ ወይም ዝቅ በማድረግ ያዘጋጀ ስለመሆኑ ማረጋገጫ መስጠትና፣ ግምቱም በግዥ አፀዳቂ ኮሚቴ መገምገምና በግዥ ፈፃሚው መሥሪያ ቤት የበላይ ኃላፊ መፅደቅ ይኖርበታል።

6. በግንባታ ሥራ ላይ የሚሰማሩ ባለሙያዎች የትምህርት ዝግጅትና ብቃትን በተመለከተ

የሥራ ተቋራጮች የጨረታ ሰነድ ላይ በሚገለፀው መሠረት እንደ ግንባታ ሥራው ባሕርይ ለሥራው የሚያስፈልጉ ብቁ ባለሙያዎችን በሚፈለገው መጠን እና በብዛት

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አብዱልአዚዝ መሐመድ
ሚኒስትር

እንደሚያቀርቡ ማንኛቸውም ባለሙያዎችም ለሥራው በሚያስፈልጉበት ጊዜ ሁሉ በተመደቡበት ቦታ ላይ ለመሥራት ግዴታ የገቡ መሆኑን የሚያመለክት አስተማማኝ ማስረጃ ማቅረብ ይኖርባቸዋል። ባለሙያዎቹም የግንባታ ሥራ ተቋራጩ ቋሚ ወይም ጊዜያዊ ሠራተኞች ሊሆኑ ይችላሉ።

7. <u>የግንባታ መሣሪያ ማሟላትን በተመለከተ</u>

የሥራ ተቋራጮች የጨረታ ሰነዱ ላይ በሚገለፀው መሠረት እንደ ግንባታ ሥራው ባሕርይ ለሥራው የሚያስፈልጉ መሣሪያዎችን ዓይነት እና መጠን በሚፈለጉበት ጊዜ ሁሉ ማቅረብ እንደሚችሉ የሚያሳይ ማረጋገጫ ማቅረብ ይኖርባቸዋል። የሚቀርቡት መሣሪያዎችም በሥራ ተቋራጩ ባለቤትነት ሥር የሚገኙ ወይም በኪራይ የተገኙ ሊሆኑ ይችላሉ።

8. <u>ከአንድ በላይ ንዑሳን የግንባታ ሥራዎች(lots) በተካተቱበት ግዥ ላይ የልምድ አያያዝን በተመለከተ</u>

ሀ) በአንድ የጨረታ ማስታወቂያ የሚወጡት ንዑስ የግንባታ ሥራዎች ቁጥር ከአንድ በላይ በሚሆንበት ጊዜ ማንኛውም ተጫራች መስተናገድ የሚፈልግባቸውን ንዑስ የግንባታ ሥራዎች ዓመታዊ ተርንኦቨር፣ የገንዘብ አቅምና ተዛማጅ የሥራ ልምድ መስፈርት በድምር ማሟላት አለበት ።

ለ) አንድ ተጫራች ለእያንዳንዱ ንዑስ የግንባታ ሥራ የተጠየቀውን መስፈርት አሟልቶ ነገር ግን ለተጫረተባቸው ንዑስ የግንባታ ሥራዎች በድምር የሚጠየቀውን መስፈርት በማያሟላበት ጊዜ ምንም እንኳን በተናጠል ሲታይ ለየንዑስ የግንባታ ሥራዎቹ የተሻለ ዋጋ ቢያቀርብም፣ ውል ሊፈረም የሚችለው መስፈርቶቹን ማሟላት በቻለበት ልክ ብቻ ሲሆን፣ ለግዥ ፈፃሚ መ/ቤቱ የተሻለ ጠቀሜታ ከማስገኘት አንፃር ድርጅቱ ውል የሚገባበትን ንዑስ የግንባታ ሥራ ወይም የግንባታ ሥራዎች የመወሰን ሥልጣን የግዥ ፈፃሚ መ/ቤቱ ይሆናል።

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9. <u>ስለህንጻ ግንባታ ሥራ የሚጠየቅ ዝቅተኛ መሥፈርት</u>

ሀ) ስለህንጻ ግንባታ ሥራ የሚወዳደረው የአገር ውስጥ ሥራ ተቋራጭ ሲሆን፣ የሚጠየቀው ዝቅተኛ መሥፈርት ሊሠራ ከታሰበው የህንጻ ሥራ በአንድ ደረጃ ዝቅ ያለ መሆን አለበት። ለምሳሌ በአነስተኛ ህንጻ ሥራ ልምድ ያለው የአገር ውስጥ ሥራ ተቋራጭ ለመካከለኛ ህንጻ ግንባታ ሥራ ተቀባይነት ይኖረዋል።

ለ) ስለህንጻ ግንባታ ሥራ የሚወዳደረው የውጭ አገር ሥራ ተቋራጭ ሲሆን፣ ሊሠራ ከታሰበው የህንጻ ደረጃ ጋር እኩል የሆነ ወይም የበለጠ የህንጻ ሥራ ልምድ ሊኖረው ይገባል። ለምሳሌ ከምድር በላይ 70(ሰባ) ፎቆች ያሉት ህንጻ ለመሥራት የሚወዳደር የውጭ አገር ሥራ ተቋራጭ ያለው ልምድ በማናቸውም ሁኔታ ከምድር በላይ 70(ሰባ) ፎቆች ያሉትን ህንጻ ከመገንባት ያነሰ ልምድ ሊሆን አይገባም።

10. <u>ለድልድይ ግንባታ ሥራ የሚጠየቅ ዝቅተኛ መሥፈርት</u>

ሀ) ለድልድይ ግንባታ ሥራ የሚወዳደረው የአገር ውስጥ ሥራ ተቋራጭ ሲሆን፣

1/ በህንጻ ፕሮጀክቶች ሥራ ልምድ ያለው የአገር ውስጥ ሥራ ተቋራጭ አጭር ርዝመት ያለው ድልድይ ግንባታ ሥራ ላይ ለመወዳደር ተቀባይነት ይኖረዋል፡

2/ እጥር ርዝመት ባለው ድልድይ ግንባታ ሥራ ልምድ ያለው የአገር ውስጥ ሥራ ተቋራጭ መካከለኛ ርዝመት ያለው ድልድይ ግንባታ ሥራ ላይ ለመወዳደር ተቀባይነት ይኖረዋል።

3/ መካከለኛ ርዝመት ባለው ድልድይ ግንባታ ሥራ ልምድ ያለው የአገር ውስጥ ሥራ ተቋራጭ ረጅም ርዝመት ያለው ድልድይ ግንባታ ሥራ ላይ ለመወዳደር ተቀባይነት ይኖረዋል።

Annex VI to Proc. Dir. GT

ለ) በድልድይ ግንባታ ሥራ የሚወዳደረው የውጭ አገር ሥራ ተቋራጭ ሲሆን፤

1/ የውጭ አገር ሥራ ተቋራጭ የሚጠየቀው የድልድይ ግንባታ ሥራ ልምድ ሊሠራ ከታሰበው የድልድይ ሥራ ያነሰ ሊሆን አይገባም።

2/ ግዥ ፈጻሚው መሥሪያቤት ለውጭ አገር ሥራ ተቋራጭ ከሚጠየቀው ዝቅተኛ መሥፈርት በተጨማሪ በተወሰነ የድልድይ ዓይነት የድልድይ ግንባታ ሥራ ልምድ ሊጠይቅ ይችላል።ለምሳሌ የቀስት ቅርጽ ያለው ድልድይ (Arch Bridge) ሆኖ ርዝመቱ ቢያንስ 50 ሜትር እና ከዚያ በላይ የሆነ ድልድይ የመሥራት ልምድ ያለው በሚል ሊጠይቅ ይችላል።

11. <u>የመንገድ ፕሮጀክቶች አመዳደብ በንጣፍ ዓይነት</u>

የመንገድ ፕሮጀክቶች አመዳደብ የሚከተለው ይሆናል።

1/ አስፋልት ኮንክሪት ንጣፍ ወይም ደረቅ ንጣፍ ያለው (Asphalt Concrete Pavement or Rigid Pevement)፤

2/ ሁለት ድርብርብ ቢትዩሚነስ (bituminous) ከፍል ያለው ንጣፍ ወይም ሦስት ድርብርብ ያለው ንጣፍ እና የመሳሰሉት (DBST Pavement, Triple surface treatment etc)

3/ ጥምር ለባስ ያለው ወይም የጠጠር መንገድ(Aggregate surfacing/Gravel)

12. <u>ለመንገድ ፕሮጀክቶች የግንባታ ሥራ የሚጠየቅ ዝቅተኛ መሥፈርት</u>

ሀ) ለመንገድ ፕሮጀክቶች የግንባታ ሥራ የሚወዳደረው የአገር ውስጥ ሥራ ተቋራጭ ሲሆን፣ ሊሠራ ከታሰበው የመንገድ ሥራ በአንድ ደረጃ ዝቅ ያለ ልምድ ተቀባይነት ይኖረዋል። ለምሳሌ፡-

1/ በአዲስ የገጠር መንገድ ግንባታ ሥራ ጋዴም የመንገድ ደረጃዎች ማሻሻያ ፕሮጀክቶች የተገኘ የመንገድ ግንባታ ሥራ ልምድ ለአስፋልት ኮንክሪት (Asphalt Concrete) በስተቀር ለአስፋልት የማልበስ ሥራ (for asphalt surfacing) ለመወዳደር ተቀባይነት ይኖረዋል።

2/ ማንኛውም የአስፋልት ሥራ ወይም እንደ አየር መንገድ ያሉ ሌሎች ተመሳሳይ የመንገድ ግንባታ ሥራዎች ላይ የተገኘ ልምድ ለአስፋልት ኮንክሪት (Asphalt Concrete)ፕሮጀክቶች ተቀባይነት ይኖረዋል።

ለ) ለመንገድ ፕሮጀክቶች የግንባታ ሥራ የሚወዳደረው የውጭ አገር ሥራ ተቋራጭ ሲሆን፣የውጭ አገር ሥራ ተቋራጭ ሊሠራ ከታሰበው የመንገድ ፕሮጀክት ጋር ተመሳሳይ የሆነ ወይም የበለጠ የመንገድ ሥራ የግንባታ ልምድ ሊኖረው ይገባል። የሚጠየቀው የገንዘብ መጠን በማናቸውም ሁኔታ ሊሠራ ከታሰበው የመንገድ ሥራ ከተገመተው የገንዘብ መጠን ሊያንስ አይገባም።

ሱፊያን አሕመድ
ሚኒስትር

Appendix -X FDRE Proclamation of Procurement and Property Administration (No 649/2009)

ምዕራፍ አራት
የግልፅ ጨረታ አሰጣጥ

፴፭. የጨረታ ማስታወቂያ

፩/ የጨረታ ማስታወቂያ የጨረታ ሰነዱ በተዘጋጀበት ቋንቋ በሚታተም እና አገራዊ ሽፋን ባለው ጋዜጣ ቢያንስ አንድ ጊዜ መውጣት አለበት።

፪/ የመንግሥት መሥሪያ ቤቱ አስፈላጊ ሆኖ ሲያገኘው የጨረታ ማስታወቂያው በዚህ አን ቀፅ ንዑስ አንቀፅ /፩/ ከተጠቀሰው በተጨማሪ በብሔራዊ የሬዲዮ እና የቴሌቪዥን ጣቢያ ማስታወቂያውን ሊያስነገር ይችላል።

፫/ ለዕጩ ተወዳዳሪዎች ለጨረታ ማቅረቢያ የሚሰጠው ጊዜ በግዥ መመሪያ ከሚወሰነው አነስተኛ የቀን ብዛት ያነሰ መሆን የለበትም።

፴፮ የጨረታ ፕሬ

የጨረታ ፕሬ ከሚከተሉት በተጨማሪ በኤጀንሲው የሚወጣውን መደበኛ የጨረታ ሰነድ መሠረት በማድረግ መዘጋጀት አለበት:-

ሀ/ የመንግሥት መሥሪያ ቤቱን ስምና አድራሻ፤

ለ/ የዕቃውን፣ የማማከር ሥራውን እና የአገልግሎቱን አጭር መግለጫ፤

ሐ/ የጨረታውን ሰነድ ለማግኘት መሟላት ያለባቸውን ቅድመ-ሁኔታዎች እና የጨረታ ሰነዱ የሚገኝበትን ቦታ፤

መ/ የጨረታ መወዳደሪያ ዋጋ የሚቀርብበትን ቦታ እና የማቅረቢያውን የመጨረሻ ጊዜ፤ እና

ሠ/ ጨረታው የሚከፈትበትን ቦታ እና ጊዜ እንዲሁም ተጫራቾች ወይም ተወካዮች ጨረታው ሲከፈት መገኘት የሚችሉ መሆኑን የሚገልፅ ማሳሰቢያ።

CHAPTER FOUR
PROCEDURE OF OPEN TENDERING

35. Advertisements

1) Invitation to bid shall be advertised in at least one times in a national news paper of general circulation which is published in the language the bidding document is prepared.

2) Where the public body finds it necessary, it may, in addition to the medium mentioned in sub article (1) of this Article, advertise the bid on a national radio and television.

3) The time allowed for preparation of bids shall not be less than the minimum number of days stated in the procurement directives.

36. Invitation to Bid

Apart from containing the following particulars, the invitation to bid shall be prepared in accordance with the standard bidding document to be developed by the Agency:

a) the name and address of the public body;

b) a brief description of the goods, works or services to be procured;

c) the means and conditions for obtaining the bidding documents and the place from which they may be obtained;

d) the place and deadline for the submission of bids; and

e) the place and time for opening of bids, along with an announcement that bidders or their representatives are allowed to attend at the opening of bids.

፴፯. የጨረታ ሰነድ

በተጫራቾች መካከል የሚደረገው ውድድር በተሟላ፣ ገለልተኛና ተጨባጭ መሠረት ባለው ሁኔታ እንዲካሄድ ለማድረግ የጨረታው ሰነድ በኤጀንሲው የተዘጋጀውን መደበኛ የጨረታ ሰነድ መሠረት በማድረግ በቂ መረጃ በያዘ መልኩ የተዘጋጀ መሆን አለበት፡፡ በተለይም ሰነዱ የሚከተሉትን ሊያካትት ይገባል፦

ሀ/ የመጫረቻ ሰነድ ለማዘጋጀትና ለማቅረብ አስፈላጊ የሆኑ መመሪያዎችን፤

ለ/ የመጫረቻ ሰነዱን ማስረከቢያ የመጨረሻ ቀን፤ የመጫረቻ ሰነዱ የሚላክበትን አድራሻ፤ ጨረታው የሚከፈትበትን ቀን፣ ሰዓት እና ቦታ፤ እንዲሁም የተጫራቾች ወኪሎች በጨረታው መክፈቻ ሥነ-ሥርዓት ላይ ሊገኙ የሚችሉ መሆኑን የሚገልፅ መረጃ፤

ሐ/ የጨረታ መወዳደሪያ ሀሳብ ማቅረቢያ ቅፆች፣ እንዲሁም አግባብነት እስካለው ድረስ የጨረታ ማስከበሪያ ቅፆች፤

መ/ ከዋናው የመጫረቻ ሰነድ ጋር መቅረብ ያለባቸውን ተጨማሪ ኮፒዎች፤

ሠ/ የውሉን አጠቃላይ እና ልዩ ሁኔታዎች፤

ረ/ እንደአግባብነቱ ዕቃውን ለማቅረብ ወይም ሥራውን ለማጠናቀቅ ይጠበቅ የሚገባውን የጊዜ ገደብ ጨምሮ ተፈላጊውን የዕቃና አገልግሎት ዝርዝር፤

ሰ/ ተጫራቹ በጨረታው ለመሳተፍ ብቃት ያለው መሆኑን ለማረጋገጥ የሚያቀርባቸውን መረጃዎች ዓይነት እንዲሁም የፋይናንስ አቋሙን እና ሕጋዊነቱን ለማረጋገጥ ማቅረብ ያለበትን መረጃ፤

ሸ/ ጨረታው ፀንቶ የሚቆይበትን ጊዜ፤

ቀ/ ጨረታውን ለመገምገም እና በጨረታው አሸናፊ የሆነውን ለማሳወቅ የሚያገለግሉ መስፈርቶችን እና ለእያንዳንዱ መስፈርት የተሰጠውን ነጥብ፤

በ/ ግዥውን የሚፈፅመው የመንግሥት መሥሪያ ቤት የጨረታው አሸናፊ ይፋ ከመደረጉ በፊት በማናቸውም ጊዜ ጨረታውንሙሉ በሙሉ ወይም በከፊል የመሰረዝ መብት ያለው መሆኑን፤ እና

37. Bidding Documents

The bidding documents shall contain sufficient information to enable competition among the bidders to take place on the basis of complete, neutral and objective terms. In particular, bidding documents must include:

a) instructions for the preparation and submission of bids;

b) information about the final date for receipt of bids, the address to which bids must be sent, the date, hour and place of opening, as well as an announcement that bidders or their representatives are allowed to attend the opening ceremony;

c) bid submission forms and, where applicable, forms of bid security to be provided;

d) the number of copies to be submitted with the original bid;

e) the general and specific conditions of the contract;

f) specification of requirements, including time limit for delivery or completion of the task, as appropriate;

g) evidence to be provided by the bidder to demonstrate its qualifications as well as its fiscal and legal standing;

h) the period during which the bid remains in force;

(i) the criteria and the points given to each criterion for evaluation of bids and award of the contract;

(j) a reservation to the effect that the public body may reject all bids at any time prior to the notification of award; and

ተ/ ሚኒስትሩ በሚያወጣው መመሪያ በልዩ ሁኔታ ለተፈቀዱ ግዥዎች በውል አፈፃፀም ወቅት የዋጋ ማስተካከያ ሊደረግ የሚችል ስለመሆኑ እና የዋጋ ማስተካከያው የሚደረግበትን ሁኔታ እና አፈፃፀሙን፡፡

(k) the price adjustments that may be made during contract implementation and the conditions and the manner under which such price adjustments can be made to special procurements prescribed by the Minister.

፴፰. የጨረታ ሰነድ ሽያጭ

፩/ የጨረታ ሰነድ የመሸጫ ዋጋ ለጨረታው ሰነድ ዝግጅት እና ሰነዱን ለዕጩ ተወዳዳሪዎች ለማቅረብ ከወጣው ወጪ ባልበለጠ መተመን ይኖርበታል፡፡

፪/ የጨረታ ሰነዱ ጨረታው ከወጣበት ጊዜ ጀምሮ ጨረታው እስከሚዘጋበት ጊዜ ድረስ ባሉት የስራ ቀናት እና በጨረታ ማስታወቂያው በተገለፀው አኳኋን ለዕጩ ተወዳዳሪዎች እንዲደርስ መደረግ አለበት፡፡

፫/ የመንግሥት መሥሪያ ቤቱ አግባብ ሆኖ ሲያገኘው የጨረታ ሰነዱ በነፃ እንዲሰጥ ሊፈቅድ ይችላል፡፡

38. Provision of Bidding Documents

1) Bid documents shall be made available to candidates at a price not exceeding the cost of reproduction and delivery of such documents to candidates.

2) The bidding document shall be delivered to candidates on working days between the date of publication of the invitation to bid and the closing date of the bid and in the manner specified in the invitation to bid.

3) Where it deems it to be appropriate the public body may make the bidding document available to candidates free of charge.

፴፱. በጨረታ ሰነድ ላይ ስለሚደረግ ማሻሻያ

፩/ የመንግሥት መሥሪያ ቤቶች በራሳቸው ወይም የጨረታ ሰነድ ከገዙ ዕጩ ተወዳዳሪዎች በሚቀርቡ ጥያቄዎች መነሻ የመጫረቻ ሰነድ ማቅረቢያ ጊዜ ገደብ ከማለቁ በፊት የጨረታ ሰነዶችን ይዘት ለማሻሻል ይችላሉ፡፡

፪/ የተደረገው ማሻሻያ በፅሑፍ ተዘጋጅቶ የጨረታ ሰነዶችን ለገዙ ዕጩ ተወዳዳሪዎች ሁሉ በተመሳሳይ ጊዜ መላክ አለበት፡፡

፫/ የመንግሥት መሥሪያ ቤቱ የጨረታ ሰነዱን ይዘት ማሻሻል አስፈላጊ ሆኖ ያገኘው እና በማሻሻያው የተመለከቱ ማስተካከያዎችን ለማድረግ በቂ ጊዜ የሌለ መሆኑን የተረዳ እንደሆነ ዕጩ ተወዳዳሪዎች ማሻሻያውን መሠረት አድርገው የጨረታ ሰነዱን ለማዘጋጀት በቂ ጊዜ እንዲኖራቸው ለማድረግ የግዥውን ባህርይ መሠረት በማድረግ የጨረታውን ማቅረቢያ ጊዜ ለተወሰኑ ቀናት ሊያራዝም ይችላል፡፡

39. Modifications to Bidding Ddocuments

1) At any time prior to the deadline for submission of bids, the public body may, on its own initiative or in response to an inquiry by a candidate having purchased the bidding documents, modify the bidding documents by issuing an addendum, which becomes an integral part of the bidding documents.

2) Any addendum shall be communicated promptly to all candidates having purchased the bid documents at the same time.

3) If the public body considers it necessary to amend the bidding documents and if it determines that there is no enough time to incorporate the modification, it may postpone the closing date by a number of days, depending on the procurement object, which is sufficient to enable the bidders to take the addendum into account in preparing their bids.

፵. የጨረታ ማስከበሪያ

፩/ የመንግሥት መሥሪያ ቤቶች በሚያዘጋጇቸው የጨረታ ሰነድ ተጫራቾች ከመጫረቻ ሰነዱ ጋር የጨረታ ማስከበሪያ የማቅረብ ግዴታ እንዳለባቸው መግለጽ አለባቸው። የጨረታ ማስከበሪያው መጠን በጨረታው ኃላፊነት በተሞላው ሁኔታ የማይሰተፉትን ለማስቀረት የሚያስችል መሆን ይኖርበታል።

፪/ በዚህ አንቀፅ ንዑስ አንቀፅ ፩/ የተገለጸው ቢኖርም የጨረታ ማስከበሪያ ማስያዝ የሚያስፈልግባቸው የግዥ ዓይነቶች እና የጨረታ ማስከበሪያው መጠን ሚኒስትሩ በሚያወጣው መመሪያ ይወሰናል።

፫/ የጨረታ ማስከበሪያው ፀንቶ በሚቆይበት ጊዜ ውስጥ ተጫራቹ ፈቃዱን ከውድድሩ ካገለለ ወይም አሸናፊውን ተጫራች በሚመለከት አሸናፊነቱ ከተገለፀለት በኋላ ውሉን ለመፈፀም ፈቃደኛ ሆኖ ካልተገኘ ወይም አንዲያቀርብ የተጠየቀውን የውል ማስከበሪያ ካላቀረበ የጨረታ ማስከበሪያው ውርስ ይደረጋል።

40. Bid Security

1) Public bodies shall include in the bidding documents a condition that bids must be accompanied by a bid security. The amount of such bid security shall be sufficient to discourage irresponsible bidders.

2) Notwithstanding the provision of sub-article (1) of this Article, procurement in respect of which bid security is required and the amount of bid security thereof, is to be prescribed by the directive to be issued by the Minister.

3/ A bid security will be forfeited if a bidder withdraws his bid within the validity period thereof or in the case of a successful bidder, if the bidder repudiates the contract or fails to furnish performance security, if so required.

፵፩. የመጫረቻ ሰነድ አሰጣጥ፣ አቀራረብና አከፋፈት

፩/ የመጫረቻ ሰነድ በፅሑፍ ተዘጋጅቶና ተፈርሞበት በታሸገ ኢንቨሎፕ ውስጥ ሆኖ በጨረታ ማስታወቂያው ከተመለከተው ጊዜ ገደብ በፊት በተገለፀው ቦታ ገቢ መደረግ አለበት።

፪/ የመጫረቻ ሰነዱ ሕጹጽ በመሆኑ በጨረታ ሣጥን ውስጥ ሊቀመጥ የማይችል ከሆነ የመጫረቻ ሰነዱን የሰጣቸው መሥሪያ ቤቱ የማኅተም ስራ ክፍል ተረክቦ ገቢ የተደረገበትን ቀንና ሰዓት የሚያሳይ ማረጋገጫ ለአቀራቢው ተወካዩ መስጠት አለበት።

፫/ በዚህ አንቀፅ ንዑስ አንቀፅ /፪/ የተደነገገው እንደተጠበቀ ሆኖ የመጫረቻ ሰነዱን ለማቅረቢያ ከተወሰነው ጊዜ በኋላ የቀረበ ሰነድ ተቀባይነት አይኖረውም።

41. Submission and Receipt of Bids

1/ Bids shall be submitted in writing, signed and in a sealed envelope, to the place and before the deadline stated in the invitation to bid.

2/ The public body shall give a receipt to the bidder indicating the time and date on which the bid document was submitted, where it becomes impossible to put the bid document in a bid box due to its large size.

3/ Without prejudice to the provisions of sub-article (2) of this Article, a bid document recieved after the deadline for submission shall be returned unopened to the bidder.

፵፪. ጨረታን ስለመክፈት

፩/ የመንግሥት መሥሪያ ቤቱ በጨረታ ሰነዱ የተመለከተው የመጫረቻ ሰነድ ማቅረቢያ የተወሰነው የጊዜ ገደብ እንደተጠናቀቀ ወዲያውኑ፣ የመጫረቻ ሰነድ ለማቅረቢያ የጊዜ ገደብ በፊት የቀረቡ የመጫረቻ ሰነዶችን መክፈት አለበት።

42. Opening of Bids

1/ At the time stipulated in the bidding document for opening of bids, which should follow immediately after the deadline for submission of bids, the public body shall open all bids received before the deadline.

፪/ የተጫራቾቹ ስም እና በእያንዳንዱ የመጫረቻ ሰነድ የቀረበው የመጫረቻ ዋጋ፣ የተሰጠ ቅናሽ እና የመንግሥት መሥሪያ ቤቱ እንደ ሁኔታው ተጫራቾች አንፃራዊ ደረጃቸውን ለማወቅ ይረዳቸዋል ብሎ የሚያምንባቸው ሌሎች መረጃዎች ከፍ ባለ ድምፅ መነበብ እና መመዝገብ እንዲሁም ተጫራቾች በጠየቁ ጊዜ የተመዘገበውን ዝርዝር እንዲያገኙ መደረግ አለበት።

፫/ በዚህ አንቀጽ ንዑስ አንቀጽ /፪/ የተደነገገው ቢኖርም የቴክኒክና የፋይናንስ መወዳደሪያ ሀሳብ በሁለት ፖስታ የቀረበ በሚሆንበት ጊዜ የመጫረቻ ዋጋው የሚነበበው የቴክኒክ ግምገማው ከተጠናቀቀ በኋላ ይሆናል።

፵፫. የመጫረቻ ሰነዶችን ስለመመርመር እና ስለመገምገም

፩/ ጨረታውን ለመመርመርና ግምገማውን ለማከናወን የሚረዳ ሆኖ ሲገኝ፣ የመንግሥት መሥሪያ ቤቱ ተጫራቾች ባቀረቡት የመጫረቻ ሰነድ ላይ ማብራሪያ እንዲሰጡ ሊጠይቅ ይችላል። ሆኖም የዋጋ ለውጥን ጨምሮ የመጫረቻ ሰነዱ ላይ መሠረታዊ ለውጥ የሚያስከትል ሀሳብ ማቅረብ ወይም መፍቀድ አይቻልም።

፪/ በዚህ አንቀጽ ንዑስ አንቀጽ /፩/ የተጠቀሰው ቢኖርም የመንግሥት መሥሪያ ቤቱ በጨረታ ምርመራው ወቅት የተገኙ የሒሳብ ስሕተቶችን ለማረም ይችላል። የመንግሥት መሥሪያ ቤቱ እነዚህን ማስተካከያዎች የመጫረቻ ሰነዱን ላቀረበው ተጫራች በአፋጣኝ መግለፅ አለበት።

፫/ በዚህ አንቀጽ ንዑስ አንቀጽ /፬/ የተመለከተው እንደተጠበቀ ሆኖ፣ የመንግሥት መሥሪያ ቤቱ ጨረታው የተሟላ ነው ብሎ ሊቀበል የሚችለው በጨረታው ሰነድ የተመለከቱትን ተፈላጊ ሁኔታዎች ሙሉ በሙሉ የሚያሟላ ሆኖ ሲያገኘው ነው።

፬/ በጨረታው ሰነድ ከተዘረዘሩት ባህሪያት፣ የውል ቃሎች፣ ሁኔታዎች እና ሌሎችም ተፈላጊ ነገሮች ጋር በተወሰነ ደረጃ ልዩነት ቢኖረውም መሠረታዊ የሆነ ለውጥ እና ልዩነት እስካላስከተለ ድረስ ወይም የጨረታውን ቁምነገር ሳይለውጥ ሊታረም የሚችል ጥቃቅን ስህተት ወይም ግድፈት ቢኖረውም የመንግሥት መሥሪያ ቤቱ ጨረታውን እንደተሟላ አድርጎ ሊቀበል ይችላል። ማናቸውም ልዩነት እስከተቻለ ድረስ በገንዘብ ተገልጾ በጨረታ ግምገማ እና ውድድር ወቅት ከግምት ውስጥ መግባት አለበት።

2/ The name of the bidder and the total amount of each bid, discounts offered and any such information as the public body deems necessary to let the bidders know their relative rank shall be read out aloud and recorded and a copy of the record shall be made available to any bidder on request.

3/ Notwithstanding the provisions of sub – article (2) of this Article, the envelope containing the price offered by the bidder shall be read after the evaluation of the technical proposal where technical and financial proposals are submitted in two separate envelops.

43. Examination and Evaluation of Bids

1) The public body may ask bidders for clarification of their bids in order to assist in the examination and evaluation of bids; however, no change in the substance of the bid, including changes in price, shall be sought, offered or permitted.

2) Notwithstanding sub-article (1) of this Article, the public body shall correct arithmetical errors that are discovered during the examination of bids. The public body shall give prompt notice of any such correction to the bidder that submitted the bid.

3) Without prejudice to sub-article (4) of this Article, the public body may regard a bid as responsive only if it conforms to salient requirements set forth in the bidding documents.

4) The public body may regard a bid as responsive even if it contains minor deviations that do not materially alter or depart from the characteristics, terms, conditions and other requirement set forth in bidding documents or if it contains errors or oversights that are capable of being corrected without touching on the substance of the bid. Any such deviations shall be quantified, to the extent possible, and appropriately taken account of in the evaluation and comparison of bids.

፭/ ማናቸውም የመንግሥት መሥሪያ ቤት ከዚህ በታች የተዘረዘሩትን የማያሟሉ ተጫራቾችን አሸናፊ አድርጎ መምረጥ የለበትም፦

ሀ/ ተጫራቹ በዚህ አዋጅ በአንቀጽ ፳፰(፩) የተጠቀሱትን መስፈርቶች ማሟላት የማይችል ሆኖ ሲገኝ፤

ለ/ ተጫራቹ በዚህ አንቀጽ ንዑስ አንቀጽ /፪/ መሠረት የተደረገውን የሂሳብ ማስተካከያ የማይቀበል ሆኖ ሲገኝ፤

ሐ/ የቀረበው የመጫረቻ ሰነድ በጨረታ ሰነዱ የተመለከቱትን ሁኔታዎች የማያሟላ ሆኖ ሲገኝ።

፮/ የመንግሥት መሥሪያ ቤቱ በዚህ አንቀጽ ንዑስ አንቀጽ /፭/ በተደነገገው መሠረት አሸናፊውን ተጫራች ለመምረጥ በጨረታ ሰነዱ በተመለከተው የግምገማ መስፈርት መሠረት ተፈላጊውን ያሟሉ የመጫረቻ ሰነዶችን መገምገምና ማወዳደር አለበት። በጨረታ ሰነድ ያልተመለከተ የማወዳደሪያ መስፈርት በጥቅም ላይ ሊውል አይችልም።

፯/ ማናቸውም ተጫራች በመጫረቻ ሰነዱ ከተመለከተው ውጪ፣ በጨረታው አሸናፊ ሊመሆን ያቀረበውን የመጫረቻ ዋጋ እንዲለውጥ ወይም ያቀረበውን የመወዳደሪያ ሐሳብ እንዲያሻሽል ወይም ይህንን ለመፈፀም ግዴታ እንዲገባ ሊጠየቅ ወይም ሊገደድ አይችልም።

፰/ በጨረታ አሸናፊ ሆኖ የሚመረጠው፡-

ሀ/ በጨረታ ማስገባት የቴክኒክ መመዘኛዎችን ማሟላቱ የተረጋገጠ እና አነስተኛ ዋጋ ያቀረበ ተጫራች፤

ለ/ የመንግሥት መሥሪያ ቤቱ በጨረታው ሰነድ ውስጥ አሸናፊው ተጫራች የሚመረጥበትን መስፈርት የገለፀ ከሆነ፣ በጨረታ ሰነዱ የሠፈረው የጨረታው ኢኮኖሚያዊ አሸናፊ የሚወሰንበት መስፈርት መሠረት በማድረግ በሚካሄድ ግምገማ የተሻለ ኢኮኖሚያዊ ጠቀሜታ ያለው የጨረታ ሐሳብ ያቀረበው ተጫራች አሸናፊ ይሆናል። ሆኖም መስፈርቱ በተቻለዉ መጠን ሁኔታ ላይ የተመሠረተ፣ በአነዋወር ሊገመቱ የሚችሉ ሆኖ በማምጣው ጊዜ አንፃራዊ ክብደት የሚሰጠው እና ሲሰላ የሚገለፅ መሆን አለበት፤

5) Any public body shall not award a contract when:

a) the bidder has failed to demonstrate, in the manner provided in Article 28(1) of this Proclamation, that it is qualified;

b) the bidder does not accept a correction of an arithmetical error made pursuant to sub-article (2) of this Article;

c) the bid is not responsive.

6) In the process of selecting the successful bidder, the public body shall only consider substantially responsive bids for further evaluation and comparison, as defined in sub-article (5) of this Article in accordance with the criteria set forth in the bidding documents. No criterion shall be used that has not been set forth in the bidding documents.

7) No bidder may be required to change the price offered in his bid or otherwise modify his proposal or to assume obligation to do so except as set forth in the bidding document.

8) The successful bid shall be:

a) the bid that is found to be responsive to the technical requirements and with the lowest evaluated price;

b) if the public body has so stipulated in the bidding documents, the bid offering better economic advantage ascertained on the basis of factors affecting the economic value of the bid which have been specified in the bidding documents, which factors shall, to the extent practicable, be objective and quantifiable, and shall be given a relative weight in the evaluation procedure or be expressed in monetary terms whenever practicable;

ሐ/ ሚኒስትሩ በሚያወጣው ውዝርዝር መመሪያ በሚወሰነው መሰረት በዚህ ንዑስ አንቀጽ በፊደል (ሀ) ወይም (ለ) መሰረት የተመረጠው ተጫራች ህጋዊ ሁኔታ፣ የቴክኒክ እና የቴክኒክ አቅም በመጫረቻ ሰነዱ ላይ በተቀመጠው መሰረት መሆኑ በድህረ ግምገማ ቢረጋገጥ፡፡

c) where it is ascertained in post evaluation of bids that the legal, financial and technical standing of the candidate selected as the successful bidder in accordance with paragraph (a) or (b) of this sub-article conforms to the requirements stated in the bidding document.

መ/ የመንግሥት መሥሪያ ቤቱ የግምገማውን ውጤት በአጭሩ የሚገልፅ የግምገማ ሪፖርት ማዘጋጀት አለበት::

9) The public body shall prepare an evaluation report, containing a summary of the examination and evaluation of bids.

፵፬. በሚስጥር ስለሚያዝ አሠራር

ጨረታው ከተከፈተበት ጊዜ አንስቶ ከጨረታ ምርመራ፣ ከማብራሪያ፣ ከማረጋገጥ እና አቻነፌውን ተጫራች በሚመለከት ከተደረገው የውሣኔ ሀሳብ ጋር የተያያዙ መረጃዎች በሚከጨርሱት ሥጠት ያለባቸው ቢሆን፣ አቻነፌው ተጫራች እስከሚገለፅ ድረስ ለተጫራቾች ወይም ኣሥራው ጊዜ ጋር ግንኙነቱ ለለላቸው ሰዎች መግለፅ የለባቸውም::

44. Process to be Confidential

After the opening of bids, information relating to the examination, clarification, and evaluation of bids and recommendations for award must not be disclosed to bidders or other persons not officially concerned with this process until the award of the contract is announced.

Appendix -XI Number of Contractors on Currently Ongoing DB Projects (Ethiopian Roads Authority Design and Build Directorate)

Overall projects information

#	Project	Contractor	Consultant	Contract price	Contract duration	Project length	Surfacing type	Commencement	Completion date
1	Contract I: Abi Adi - Semema Design and Build Road Project	Sur Construction	MSV International, Inc. in sub consultancy with SG Consulting Engineers P.L.C.	1,748,000,000	1278	87.4km	AC	20-Dec-17	20-Jun-21
2	Contract II: Semema-Endabaguna Design and Build Road Project	Sur Construction	MSV International, Inc. in sub consultancy with SG Consulting Engineers P.L.C.	2,252,000,000	1278	87.4	AC	20-Dec-17	20-Jun-21
3	Hawassa - Hawassa Airport - BishanGuracha (TikurWeha) Design and Build Road Project	CCCC	Ethiopian Construction Design and Supervision Works Corporation	592,084,400	546	33.51	AC	17-Nov-17	17-May-19
4	Tulu Bolo - Kela Design and Build Road Project	Hunan Huanda Road & Bridge Corporation	Associated Engineering Consultant	1,309,798,352.48	1278	80.1	AC	15-Oct-17	15-Apr-21
5	Lot I: Fiseha Genet - Kele - Nedele Design and Build Road Project	Shandong Highway Engineering Construction Group	Stadia engineering Works Consultant	1,589,317,000	1278	92.5	AC	19-Oct-17	18-Apr-21
6	Maichew - Mehoni Design and Build Road Project	TekelebrehanAmbaye construction plc. (TACON)	PURE Consulting Engineers plc..	378,614,038.16	910	17.43km	AC	September 29, 2017	March 27, 2020
7	GambelaAbomboPugnido Design and Build Road Project	China Railway 21st Bureau Group Co., Ltd in Joint-Venture with Jiangxi Water and Hydropower Construction Co., Ltd	Transnational Engineering PLC.	1,310,919,269	1460	103km	AC	17-Oct-17	16-Oct-21
8	Mintamir - Metehabila - Metehara Design and Build Road Project	Zhongmei Engineering Group Limited	Net Consult Consulting Engineers and Architects	1,096,639,115	1278	82km	AC	18-Oct-17	18-Apr-21
9	AdiAbun - Rama - Mereb Design and Build Road Project	Afro-Tsion Construction Plc	Maetaferia Consulting Engineers plc in JV with Lidet Consulting Engineers Plc	807,500,000.00	1095	47km	AC	3-Oct-17	2-Oct-20
10	FiyelWeha - Abi Adi Contract I: FiyelWeha - Tekeze River Design	Jiangxi Water and Hydropower Construction	Net Consult Consulting Engineers	1,166,300,000	1095	39km	DBST	26-Sep-17	25-Sep-20

#	Project	Contractor	Consultant	Contract price	Contract duration	Project length	Surfacing type	Commencement	Completion date
	and Build Road Project	Company LTD							
11	AtatMazoria - Gunchire - Kose - Geja - Lera Design and Build Road Project	Shandong Highway Engineering Construction Group Co.Lt.	WHITEKNIGHT Construction Management Consultant plc.	1,165,299,596	1278	81km	AC	16-Oct-17	13-Apr-21
12	Woldia Town Section	ZeleulYohannes General Contractor	PURE Consulting Engineers	304,850,794.33	730	5.4	AC	26-Feb-18	26-Feb-20
13	Dejen – Felegebirhan	SATCON Construction PLC	Net Consult Consulting Engineers & Architects Plc	575,946,453.32	2458	75.27	AC	03 August 2011	April 26, 2018
14	Mender - Hana	Sino-Hydro Corporation	Transnational Consulting Engineers	1,664,681,178	730	72.87	AC	05-Jan-15	11-Sep-18
15	Metema - Abrajira Design and Build Road Project	SUR Construction PLC	Net Consult Consulting Engineers and Architectures plc	1,548,000,000	1278	117.3	AC	19-Oct-17	18-Apr-21
16	Soroka - Ergoye - Abrehajira Road Project	Sur Construction PLC	Classic Consulting Engineers plc	1,432,205,652	1095	92	AC	30-Nov-16	30-Nov-19
17	Sawla-Maji Contract II Laska-Salayish	SATCON Construction Plc	Core Consulting Engineers Plc	692,496,973	1632	61.1km	DBST	5-Aug-11	1-Jan-18
18	Diredawa - Dewele	CGC Overseas Co. Ltd	Shandong Great Supervision Consultation Co. Ltd	5,959,546,167	1506	120km	AC	1-Oct-14	15-Nov-18
19	MorochoDimtuBitenaSodo Design and Build Road Project, Contract 1: Morocho- Dimtu - Bitena	SUNSHINE CONSTRUCTION PLC	Civil Works Consulting Engineers PLC	995,018,921.34	1317	60.8	AC	5-Dec-14	14-Jul-18
20	Beles - MekaneBirhan Road Project	Defence Construction Enterprise	Classic Consulting Engineers	1,018,952,362	1095	39	DBST	1-Nov-16	1-Nov-19
21	Debark - Buahit Road Upgrading Project	AKIR Construction	IDCON Infrastructure Development Consultants	666,075,716	2215	61.8	DBST	4-Jul-11	27-Jul-17
22	Buahit - Dilyibza Road Upgrading Project	Satcon Construction	IDCON Infrastructure Development Consultants PLC	947,920,000.00	1096	72.895km	DBST	25-Apr-11	26-Dec-18
23	Omo - Maji Design and Buil Road Project; Contract II: Sai - Maji	YANCOMAND General Contractor	DANA & Associates Engineering Consultant	772,077,818	1095	29	DBST	20-Feb-17	20-Feb-20
24	Abobo - Km 76 Design and Build Road Project	China Railway Seventh Group Co..Ltd. (CRSG)	Civil Works Consulting Engineers P.L.C.	ETB 960,130,378.57	1260	76km	DBST	07-Feb-18	21-Jul-20
25	Adiremet - Kulita - Adigoshu Design and Build Road Project	MELCON Construction PLC	VALUE Engineering PLC	953,000,000.00	1095	57	DBST	26-Oct-17	25-Oct-20
26	Werabe - Bojober	YemaneGirmaye General Contractor	Civil Works Consulting Engineers	445,650,000	1095	40.5	DBST	26-Jan-17	26-Jan-20

Appendix -XII Questionnaire filled by ERA Procurement Directorate

Addis Ababa Science and Technology University

School of Civil Engineering and Architecture

Civil Engineering MSc Program (CoTM Specialization)

Thanks for your cooperation in advance!!

Dear Respondents, the purpose of this questionnaire is to investigate the possible measures to create favorable working condition of local DB contractors. Thus, you are kindly requested to cooperate in listing out and weighting those areas that you have encountered weaknesses of local contractors in your frequent bid evaluation practices.

- Experience in the department

  0 to 5 years ☐ 5 to 10 years ☐ Greater than 10 years ☐

1) What are the relevant criteria that, local DB contractors fail to achieve most in technical bid evaluation?

- The weights of the points from 5 to 1 are **Most frequent**, **Frequent**, **Less frequent**, **Rarely** and **Never** correspondingly.

Criteria	Points				
	5	4	3	2	1
Personnel requirement for construction crew					
Personnel requirement for design crew					
Financial capability					
Equipment capability					
Particular construction project experience					
Required number, value and complexity and similarity of Road Projects completed					
key production rates of earth work, sub-base, crushed stone, asphalt surfacing					
General construction experience					
Time period in the Construction Business					
Required annual turnover					
Litigation history					
History of non-performing					

Submission of envelops as per the requirement						

Remark:(Please add if there are more)

_____

_____

_____

In case if you want to attach supporting document please state the title/file name

_____

_____

2) What are the possible measures to favor local DB contractors in bid without affecting the competitive nature and fairness of the evaluation process (if it were possible)?

- The weights of the points from 5 to 1 are **Best, Better, Bad, Worse** and **Worst** correspondingly.

Possible measures	Points				
	5	4	3	2	1
Lowering(considering) the personnel requirement for construction crew					
Lowering(considering) the personnel requirement for design crew					
Assisting (considering) the in financial capability criteria					
Assisting(considering) the equipment capability					
Assisting(considering) the particular construction project experience					
Assisting(considering) the required number, value and complexity and similarity of Road Projects completed					
Assisting(considering) the key production rates of earth work, sub-base, crushed stone, asphalt surfacing					
Assisting(considering) the general construction experience					
Assisting(considering) time period in the Construction					

Business					
Assisting(considering) required annual turnover					
Assisting(considering) the litigation history					
Assisting(considering) the history of non-performing					
Assisting(considering) the submission of envelops as per the requirement					

Remark:(Please add if there are more)

_____

_____

In case if you want to attach supporting document please state the title/file name

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_____

3) Are there any articles/phrases in the procurement directive/proclamations/conditions of contract in favor of local DB contractors that the department implements in evaluation process?

Yes ☐ No ☐

If yes please state some

_____

_____

In case if you want to attach supporting document please state the title/file name

_____

_____

4) Are there any articles/phrases **not included**in the procurement directive/proclamations/conditions of contract in favor of local DB contractors that the department implements in evaluation process?

Yes ☐ No ☐

If yes please state some

_____

_____

_____

In case if you want to attach supporting document please state the title/file name

_____

_____

Thanks for your cooperation Sir/Madam!!

BIOGRAPHY

The author, YohannesFekadu was born and raised in the capital of Ethiopia, Addis Ababa. HE attended his first degree in Hawassa University, Ethiopia in Civil Engineering in September 2014.He worked as a cad engineer in Ethio-telecom and he is currently working as a Structural Engineer in Ethiopian Construction Design and supervision Corporation and a par timer in procurement department of a local grade 5 construction company.